BRILLIANT STUDENTS FORM 4 END TERM 2 SERIES 1 EXAMS *(ALL SUBJECTS TESTED)*



BRILLIANT STUDENTS FORM 4 END TERM 2 SERIES 1 EXAMS

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.

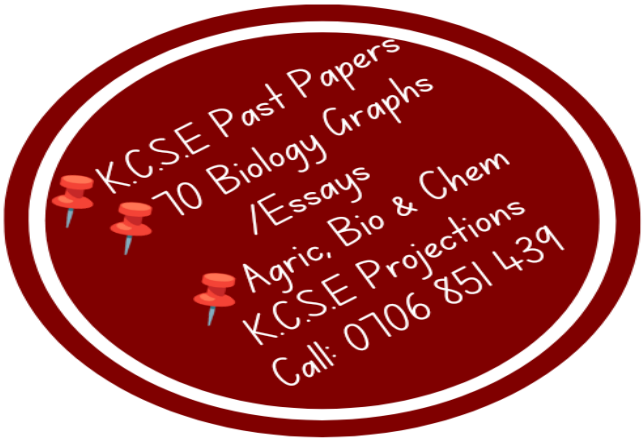
CALL AMOBI GROUP OF EXAMINERS @ 0743 333 000 OR 0706 851 439 TO ACQUIRE :













BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……..

SCHOOL: ……...……

ADM NO: …….. SIGN: ……. DATE: ……..

443/1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- This paper consists of three sections: A, B and C.
- Answer **all** the questions in section **A** and **B** and **any two** questions from section **C.**
- All answers must be written in the spaces provided in this booklet.
- This paper consists of **12** printed pages.
- Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

FOR OFFICIAL USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 – 17	30	
B	18 – 21	20	
C		20	
		20	
	TOTAL SCORE	**90**	

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

SECTION A (30 MARKS)

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

1. Give **four** methods of applying fertilizers to crops. **(2 marks)**

……

……

……

……

……

……

2. State **four** beneficial biotic factors that influence agriculture. **(2 marks)**

……

……

……

……

……

……

3. Give **four** branches of Agriculture. **(2 marks)**

……

……

……

……

……

……

4. State **four** advantages of co-operative land tenure system. **(2 marks)**

……

……

……

……

……

……

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

5. State **four** benefits of organic mulch in crop production. **(2 marks)**

……

……

……

……

……

……

6. State **four** conditions under which shifting cultivation is practiced. **(2 marks)**

……

……

……

……

……

……

7. Give **four** effects of mass wasting. **(2 marks)**

……

……

……

……

……

……

8. Give **four** factors that affect the rooting of cuttings. **(2 marks)**

……

……

……

……

……

……

9. Name **four** details that are included in a farm marketing record. **(2 marks)**

……

……

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

……

……

……

……

10. Give **four** examples of product-product relationships in the management of agricultural enterprises. (2 marks)

……

……

……

……

……

……

11. State **three** entries that are made in a journal. (1½ marks)

……

……

……

……

……

12. Give **two** reasons for cutting back pyrethrum. (1 mark)

……

……

……

……

13. State **three** parameters used to indicate national development. (1½ mark)

……

……

……

……

……

……

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

14. State **four** symptoms of viral diseases in crops. (2 marks)

……

……

……

……

……

……

15. Give **four** reasons for draining land as part of land reclamation. (2 marks)

……

……

……

……

……

……

16. State **two** reasons for topping a pasture. (1 mark)

……

……

……

……

17. State **two** advantages of metal pipes over plastic pipes in piping water in the farm. (1 mark)

……

……

……

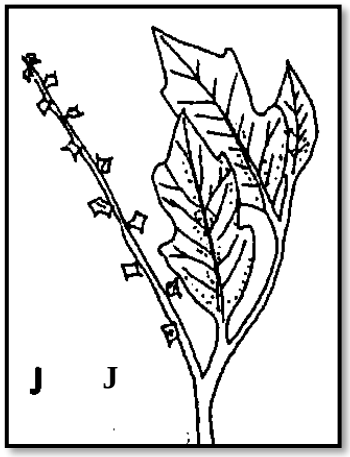
……

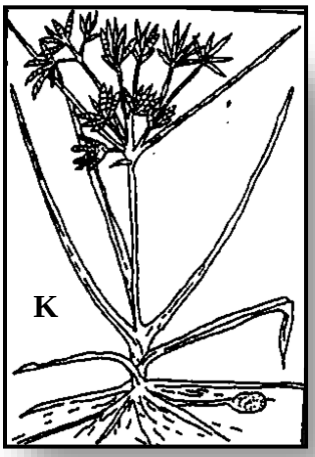
Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

SECTION A (30 MARKS)

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

18. Study the following weeds and answer questions that follow.





a) Give the identity of weeds J and K. **(2 marks)**

J _____

K _____

b) What makes weed K difficult to control? (1 mark)

……

……

……

c) Give the economic importance of weed J. (1 mark)

……

……

……

d) State **one** reason that makes weeds excellently adapted to various environments. (1 mark)

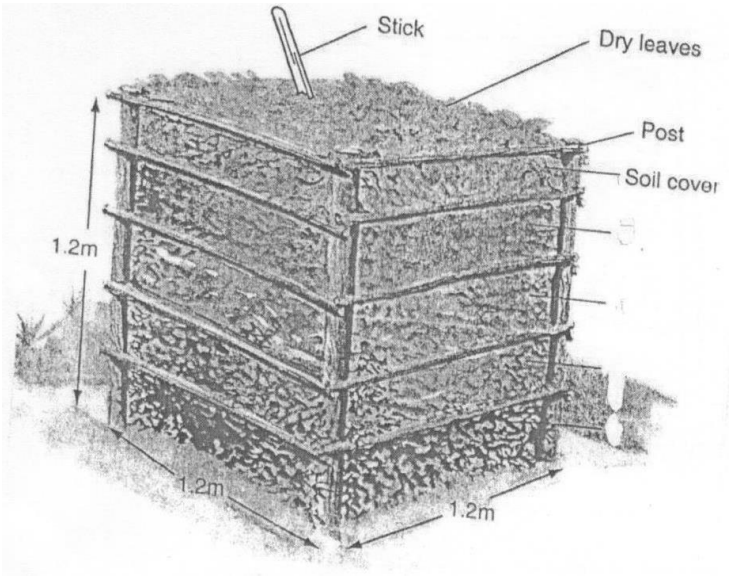
……

……

……

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

19. Study the diagram below of a method of compost making and answer the questions that follow.



a) Identify the methods of compost making. (1 mark)

……

……

b) State **four** factors to consider when siting the structure. (2 marks)

……

……

……

……

……

……

c) What is the function of the following materials in preparation of compost manure?

i) Top soil (1 mark)

……

……

……

ii) Wood ash (1 mark)

……

……

……

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

20. Two maize pests are shown in the diagram below. Study them and answer questions that follow.



A A



B B

a) Identify the pests in the diagram labeled A and B. (1 mark)

A _____

B _____

b) At what stage of maize production does each pest damage the crop? (2 marks)

A _____

B _____

c) Give **one** way of controlling each of the pests in the field. (2 marks)

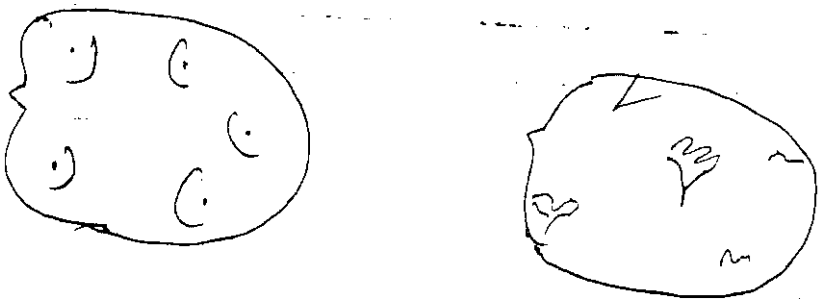
……

……

……

21. The diagram below represents a vegetative material used to prepare a certain crop.

Study them and answer the questions that follow.



i) Give the name of the material illustrated above. (1 mark)

……

……

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

ii) Give the name of the preparation done on the material to make it ready for planting. (1 mark)

……

……

iii) State **three** advantages of carrying out the practice in (ii) above before planting. (3 marks)

……

……

……

……

……

……

SECTION C (40 MARKS)

*Answer **ANY TWO** questions from this section in the spaces provided*

22. a) Describe the growing of dry bean seeds under the following subheadings.

- Selection and preparation of planting materials (3 marks)
- Planting (4 marks)
- Weeding (3 marks)

b) Describe the environmental conditions that may lead to low crop yields. (10 marks)

23. a) Explain **six** factors considered in designing a crop rotation programme. (6 marks)

b) Explain the factors that influence the type of irrigation to be used in a farm. (8 marks)

c) Explain **six** post-harvest practiced carried out on production of maize. (6 marks)

24. a) Explain **five** advantages of budgeting in farming. (10 marks)

b) Explain **five** various types of risks and uncertainties. (5 marks)

c) Describe the importance of pruning perennial crops. (5 marks)

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

443/2

AGRICULTURE

PAPER 2

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- This paper consists of three sections: A, B and C.
- Answer **all** the questions in section **A** and **B** and **any two** questions from section **C.**
- All answers must be written in the spaces provided in this booklet.
- This paper consists of **12** printed pages.
- Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

FOR OFFICIAL USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 – 18	30	
B	19 – 22	20	
C		20	
		20	
	TOTAL SCORE	**90**	

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

SECTION A (30 MARKS)

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

1. Give **three** factors that affect the quality of honey. **(1½ marks)**

……

……

……

……

……

2. State **three** conditions that make a cow to withhold milk during milking. (1½ marks)

……

……

……

……

……

3. State **four** signs of furrowing observed in pigs. (2 marks)

……

……

……

……

……

4. Give **three** factors that may make birds to lay eggs on the floor in a deep litter. (1½ marks)

……

……

……

……

……

5. Give **three** characteristics of clean and high quality milk. (1½ mark)

……

……

……

……

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

……

……

6. Outline **four** control measures of round worms. (2 marks)

……

……

……

……

……

7. State **four** signs of liver fluke infestation in cattle. (2 marks)

……

……

……

……

……

8. Give **four** reasons of breeding in cattle. (2 marks)

……

……

……

……

……

9. List **four** methods of preserving fish. (2 marks)

……

……

……

……

……

10. Name **two** classes of livestock feedstuffs. (1 mark)

……

……

……

……

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

11. Give **two** roles of ovaries in cows' reproductive system. (l mark)

……

……

……

……

12. Give **two** reasons for flushing in sheep. (1 mark)

……

……

……

……

13. Give **four** reasons for treating timber used in construction of farm buildings. (2 marks)

……

……

……

……

……

14. State **four** factors that influence the daily water intake in an animal. (2 marks)

……

……

……

……

……

15. Name **two** functions of a clutch in the tractors transmission system. (1 mark)

……

……

……

……

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

16. Give **four** characteristics of a good calf pen. (2 marks)

……

……

……

……

……

17. State **four** factors that influence the choice of the poultry system of rearing to use. (2 marks)

……

……

……

……

……

……

18.State **four** routine management practices carried out on a replacement stock that is a heifer. (2 marks)

……

……

……

……

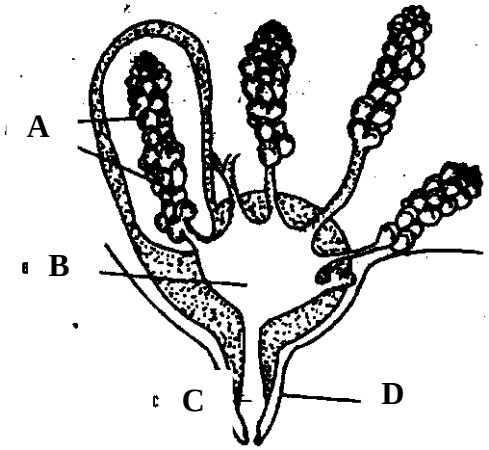
……

……

SECTION B (20 MARKS**)**

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

19. The diagram below is a cross section of part of a cow's udder.



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

a) Name the parts marked A, B, C and D. (2 marks)

A _____

B _____

C _____

D _____

b) Name **two** hormones that control milk let down in a dairy cow. (2 marks)

……

……

……

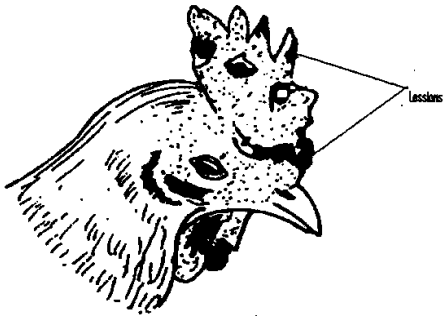
c) What is a dry cow therapy? (1 mark)

……

……

……

20. The diagram below shows the head of a chicken having symptoms of a poultry disease.



Lessions

a) Identify the disease. (1 mark)

_____

b) Give **two** reasons why the disease is of economic importance. (2 marks)

……

……

……

……

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

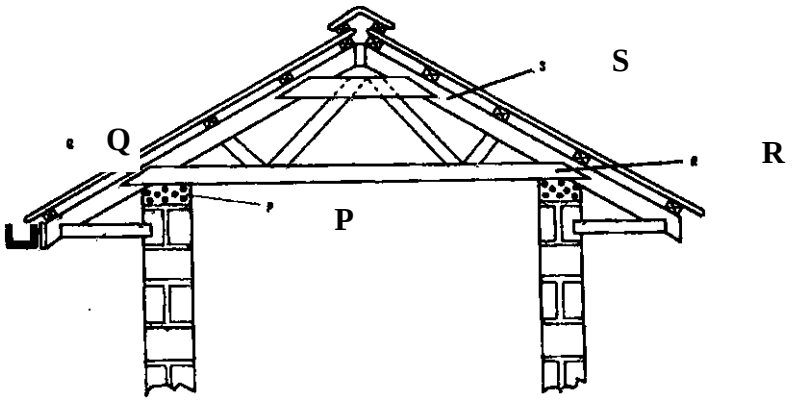
c) Outline **two** methods of controlling the above disease. (2 marks)

……

……

……

21. The following diagram shows parts of a roof. Study it carefully and answer the questions that follow.



a) Name the parts labeled P, Q, R and S. **(2 marks)**

P _____

Q _____

R _____

S _____

b) State the functions of P and Q. **(2 marks)**

P _____

Q _____

c) Give **two** chemical preservatives for treating timber before use in the construction of farm structures. (2 marks)

……

……

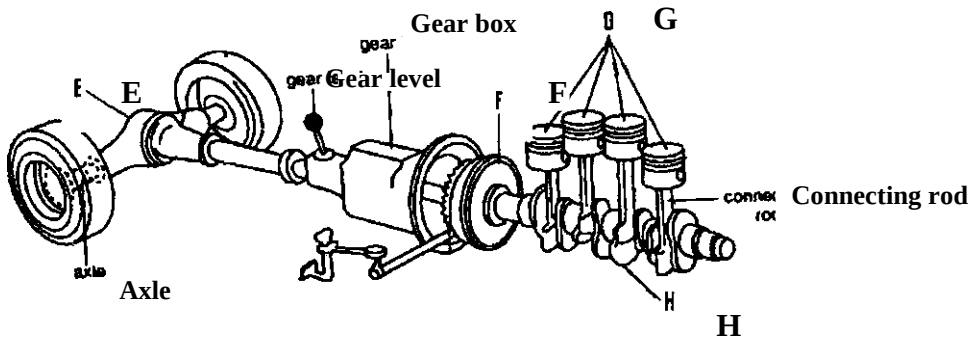
……

……

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

22. Below is a diagram of power transmission system of tractor engine.

Study it and answer the question that follows.



a) Name the parts labeled E, F, G and H. (2 marks)

E _____

F _____

G _____

H _____

b) State the functions of E and H. (2 marks)

E _____

H _____

SECTION C (40 MARKS)

*Answer **ANY TWO** questions from this section.*

23. a) Describe **five** pre-disposing factors of livestock diseases. (5 marks)

b) Describe **six** mechanical methods of controlling ticks. (6 marks)

c) Describe the factors that affect milk composition of a cow. (9 marks)

24. a) State **five** advantages of farm mechanization. (5 marks)

b) Explain **five** advantages of using a mould board plough in seed bed preparation. (5 marks)

c) Describe the use of various materials in construction of a Kenya Top bar hive. (5 marks)

d) Outline the care and maintenance of a tractor water cooling system. (5 marks)

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

25. a) State **four** physical characteristics of a dairy cow. (4 marks)

b) State **nine** factors to consider when selecting livestock for breeding. (9 marks)

c) Describe milk fever in dairy cattle under the following sub-headings.

i) The cause of the disease (1 mark)

ii) Symptoms of the disease (4 marks)

iii) Control measures (2 marks)

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

231/1
BIOLOGY
(THEORY)
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

1.Write your name and index number in the spaces provided above.

2.Sign and write the date in the spaces provided above.

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

4.Additional pages **MUST** not be inserted.

5.Candidates may be penalized for false information and even wrong spellings of technical terms.

6.This paper consists of **7** printed pages.

7.Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR OFFICIAL USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 – 31	80	

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

1. Motor vehicles move, use energy and produce carbon (IV) oxide and water. Similar characteristics occur in living organisms yet motor vehicles are not classified as living. Explain. (3 marks)

.....

.....

.....

.....

.....

2. State **one** use for each of the following apparatus in the study of living organisms.

   a) Pooter (1 mark)

.....

.....

   b) Pitfall trap (1 mark)

.....

.....

3. State the functions of the following cell organelles:

   a) Ribosomes (1 mark)

.....

.....

   b) Lysosomes (1 mark)

.....

.....

4. State the functions of the following parts of a light microscope.

   a) Fine adjustment knob (1 mark)

.....

.....

.....

   b) Stage (1 mark)

.....

.....

.....

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

5. Why is it recommended to keep the stage of the microscope dry? (1 mark)

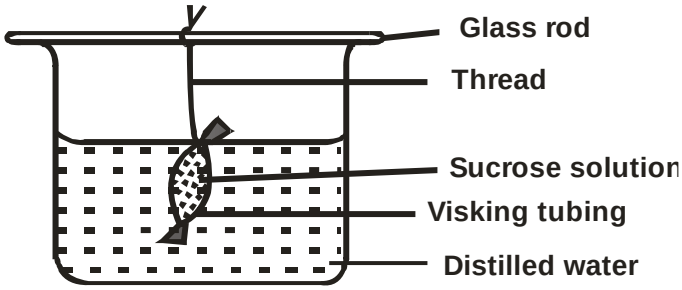
……

……

……

6. Using a microscope, a student counted 55 cells across a field of view whose diameter was 6000μm (micrometers). Calculate the average length of the cells. Show your working. (2 marks)

7. An experiment was set up as shown below.



The set up was left for 30 minutes.

a) State the expected results. (1 mark)

……

……

b) Explain your answer in (a) above. (3 marks)

……

……

……

……

……

a) Distinguish between diffusion and active transport. (2 marks)

……

……

……

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

……

……

b) State **one** role that is played by osmosis in,

i) Plants (1 mark)

……

……

ii) Animals (1 mark)

……

……

8. Name **two** mineral elements that are necessary in the synthesis of chlorophyll. (2 marks)

……

……

……

……

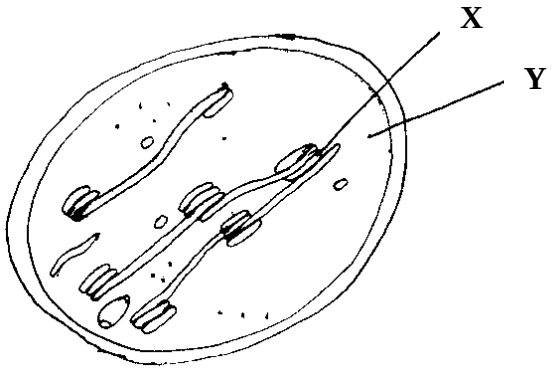
9. a) State the functions of cristae in mitochondria. (1 mark)

……

……

……

b) The diagram below represents a cell organelle.



i) Name the part labelled Y. (1 mark)

……

……

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

ii) State the functions of the part labelled X. (1 mark)

……

……

10. Name the end products of the light stage in photosynthesis. (2 marks)

……

……

……

11. a) State the functions of co-factors in cell metabolism. (1 mark)

……

……

……

b) Give **one** example of a metallic co-factor. (1 mark)

……

……

12. The action of ptyalin stops at the stomach. Explain. (1 mark)

……

……

……

13. State **two** functions of carbohydrates in the human body. (2 marks)

……

……

……

……

14. Name the tissues in plants responsible for:

a) Transport of water and mineral slats. (1 mark)

……

……

b) Transport of carbohydrates. (1 mark)

……

……

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

c) Primary growth. (1 mark)

……

……

15. Explain how the following contribute to the movement of water up the xylem vessels. (2 marks)

a) Cohesion

……

……

……

……

b) Adhesion

……

……

……

16. a) Name the type of circulatory system found in members of the class insecta. (1 mark)

……

……

b) Name the blood vessel that transports blood from:

i) Small intestines to the liver (1 mark)

……

……

ii) Lungs to the heart (1 mark)

……

……

17. a) Name **one** defect of circulatory system in humans. (1 mark)

……

……

b) State **two** ways in which the red blood cells are adapted to their functions. (2 marks)

……

……

……

……

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

18. Why would carboxyhaemoglobin lead to death? (2 marks)

……

……

……

……

19. State **four** ways in which respiratory surfaces are suited to their function. (4 marks)

……

……

……

……

……

……

20. Name the causative agents for the following respiratory diseases.

i) Whooping cough (1 mark)

……

……

ii) Pneumonia (1 mark)

……

……

21. Name the **three** end products of anaerobic respiration in plants. (3 marks)

……

……

……

……

……

22. Give **two** factors that determine the amount of energy a human being requires in a day. (2 marks)

……

……

……

……

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

23. Explain what happens when there is oxygen debt in human muscles. (3 marks)

.....

.....

.....

.....

.....

24. a) A person was found to pass out large volumes of dilute urine frequently.

i) Name the disease the person was suffering from. (1 mark)

.....

.....

ii) Name the hormone that was deficient. (1 mark)

.....

.....

25. What is the role of sweat in human body? (2 marks)

.....

.....

.....

.....

26. Explain what happens to excess amino acids in the liver of humans. (3 marks)

.....

.....

.....

.....

.....

27. Explain why plants do not require specialized excretory organs. (4 marks)

.....

.....

.....

.....

.....

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

28. State **three** external differences between chilopoda and diplopoda. (3 marks)

……

……

……

……

……

29. a) How are leaves of submerged plants adapted to photosynthesis? (2 marks)

……

……

……

……

……

b) Name **two** disorders in human caused by gene mutation. (2 marks)

……

……

……

……

30. a) State **two** functional differences between the rods and cones in the human eye. (2 marks)

……

……

……

……

b) State **two** advantage of having an exoskeleton. (1 mark)

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

231/2

BIOLOGY
(THEORY)
PAPER 2
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

a) Write your name and index number in the spaces provided above.
b) Write the date of examination and sign in the spaces provided above.
c) Answer **ALL** the questions in section A by filling in the spaces provided.
d) In section B, answer question 6 (compulsory question) and any other one question from the remaining two questions. (i.e. 7 or 8)
e) Candidates may be penalized for false information and even wrong spellings of technical terms.
f) This paper consists of **12** printed pages.
g) Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR OFFICIAL USE ONLY

	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
SECTION A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
SECTION B	6	20	
	7	20	
	8	20	
	TOTAL SCORE	80	

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 spaces provided*

1. The equation below represents a process that takes place in plants.

$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

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

……

……

b) State **two** conditions necessary for the process to take place. **(2 marks)**

……

……

……

……

c) State what happens to the end-products of the process. **(5 marks)**

……

……

……

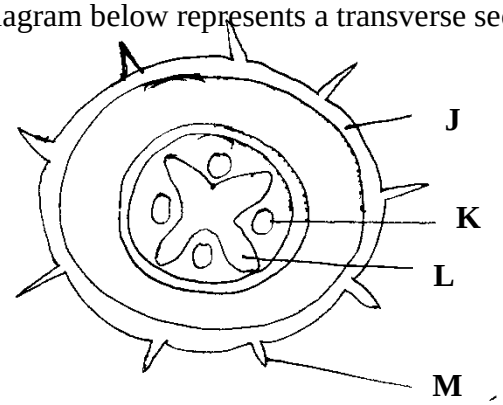
……

……

……

……

2. The diagram below represents a transverse section through a plant organ.



a) From which plant organ was the section obtained? **(1 mark)**

……

……

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

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

……

……

……

……

……

c) Name the parts labelled J, K and L. (3 marks)

J_____

K_____

L_____

d) State **two** functions of the part labelled M. **(2 marks)**

……

……

……

……

……

3. In a certain plant species which is normally green, a recessive gene for colour (n) causes the plant to be white in colour. Such plants die at an early age. In the heterozygous state, the plants are pale green in colour but grow to maturity.

a) Give a reason for the early death of the plants with homozygous recessive gene. **(2 marks)**

……

……

……

……

……..

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

b) If a normal green plant was crossed with the pale green plant, what would be the genotype of the first filial generation (F_1 generation)? Show your working. (4 marks)

c) If heterozygous plants were self-pollinated and the resulting seeds planted, work out the population of their offspring that would grow to maturity. (2 marks)

4. a) What is meant by the term biological control? (1 mark)

……

……

……...

b) i) What is eutrophication? (3 marks)

……

……

……

……

……

ii) What are the effects of eutrophication? (3 marks)

……

……

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

……

……

……

……

……

c) Name a substance that is responsible for acid rain. (1 mark)

……

……

5. a) What is meant by the following terms

i) Protandry? (1 mark)

……

……

……

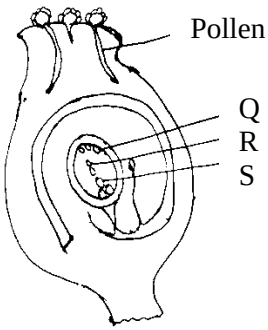
ii) Self-sterility? (1 mark)

……

……

……

b) The diagram below shows a stage during fertilization in a plant.



i) Name the parts labeled Q, R and S. (3 marks)

Q_____

R_____

S _____

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

ii) State **two** functions of the pollen tube. (2 marks)

……

……

……

……

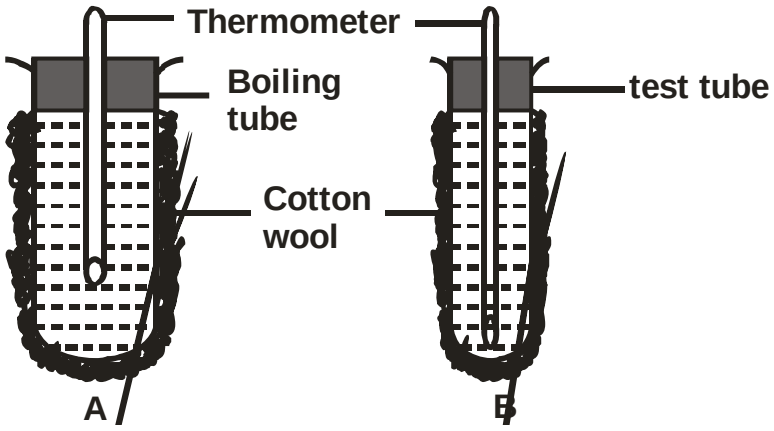
……

c) Label the Micropyle on the diagram. (1 mark)

SECTION B (40 MARKS)

*Answer question **6 (compulsory)** and either question 7 or 8 in the spaces provided after Question 8*

6. In an experiment to investigate a certain physiological process, a boiling tube labelled A and a test-tube labelled B were covered with cotton wool. The two tubes were simultaneously filled with hot water and fitted with thermometer. The experiment set-up was as in the diagrams below.



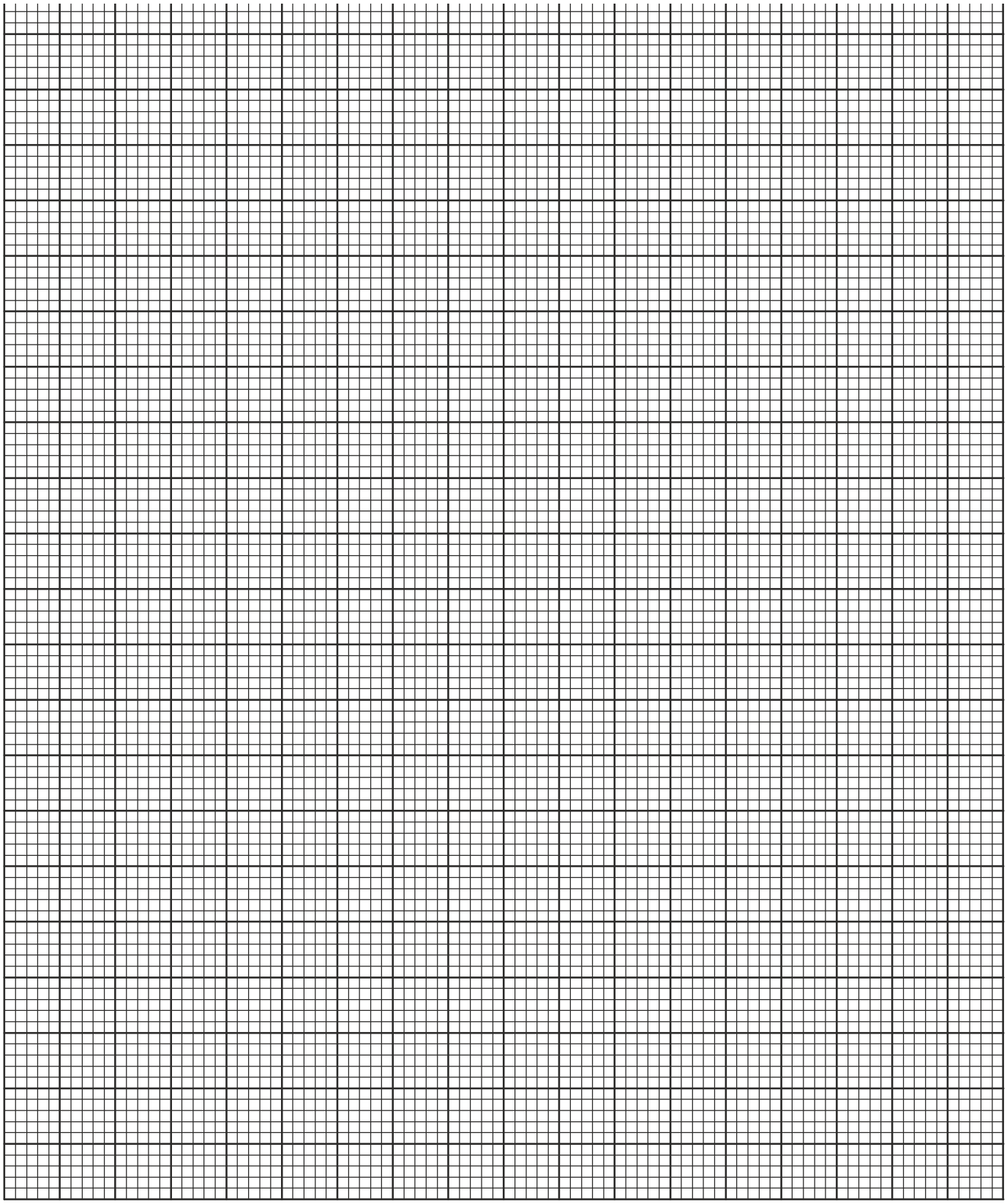
Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

Temperature readings were taken at the start and after every two minutes for twenty minutes. The results were as shown below.

Time (minutes)	Temperature (°C)	
	Boiling tube A	Test-tube B
0	60	60
2	59	54
4	57	50
6	55	46
8	53	43
10	52	40
12	51	37
14	49	35
16	48	33
18	47	32
20	46	30

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

a) Using the same axis, draw graphs of temperature against time. (6 marks)



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

b) i) Work out the rate of heat loss in the boiling tube labelled A and test tube labelled B between the 5^{th} and 15^{th} minutes. (4 marks)

……

……

……

……

……

……

ii) Account for the answers in (b) (i) above. (2 marks)

……

……

……

……

iii) How does the explanation in (b) (ii) above apply to an elephant and a rat? (2 marks)

……

……

……

……

c) i) State the role of the cotton wool in this experiment. (1 mark)

……

……

……

ii) Name **two** structures in mammals that play the role stated in (c) (i) above. (2 marks)

……

……

……

……

d) State **three** advantages of having constant body temperature in mammals. (3 marks)

……

……

……

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

……

……

……

……

7. a) Explain how comparative embryology is an evidence for organic evolution. (2 marks)

b) Describe the structure and functions of the various parts of the human ear. (18 marks)

8. a) Describe the mechanism of gaseous exchange in a mammal. (16 marks)

b) Explain the mechanism of stomata opening in plants. (4 marks)

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

231/3
BIOLOGY
(PRACTICAL)
PAPER 3
TIME: 1¾ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name, school, index number, signature and date in the spaces provided above.

2. Answer ALL the questions in spaces provided.

3. You are required to spend the first 15 minutes of the 1¾ allowed for this paper reading the whole paper carefully before commencing your work.

4. Answers must be written in the spaces provided in the question paper.

5. Additional pages must not be inserted.

6. This paper consists of **6** printed pages.

7. Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR OFFICIAL USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	12	
2	14	
3	14	
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 potato labelled R. Cut 4 equal pieces of the potato about $1cm^3$.

- Place one piece in a test-tube and label it A.
- Place a second piece onto a white tile or petri-dish and crush it into a paste using a motor or a glass rod. Put it into a second test-tube and label it B.
- To each of the two test tubes, add $2cm^3$ of hydrogen peroxide.

a) Record your observations. (2 marks)

……

……

……

- Put a third piece of potato onto the white tile and crush it into a paste using the motor and the pestle. Put it into a third test tube and label it C.

Add some little water to the paste and boil it for about 10 minutes. Let it cool.

Add $2cm^3$ of hydrogen peroxide.

b) Record your observations. (1 mark)

……

……

c) Explain the results in (a) and (b) above. (4 marks)

……

……

……

……

……

……

……

d) Crush the fourth piece of potato and put it into a test-tube, add $2cm^3$ of hydrogen peroxide to it. Test the gas produced and record your observations. (1 mark)

……

……

……

e) Make a conclusion based on results in (d) above. (1 mark)

……

……

……

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

f) Write a word equation for the reaction that produces the gas. (1 mark)

……

……

g) Where in your body does such a reaction occur? (1 mark)

……

……

h) What is the importance of such a reaction in the body? (1 mark)

……

……

……

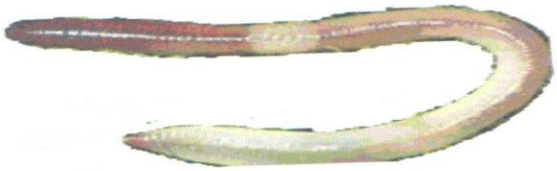
2. You are provided with specimens labelled A, B, C, D, E, F and G.



A



B



C



D



E



F



G

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

A dichotomous key shown below can be used to identify them

1.a)	Jointed legs present ----------	go to 2
b)	Jointed legs absent ----------	go to 6
2.a)	Three pairs of legs ----------	go to 3
b)	More than three pairs of legs ----------	go to 5
3.a)	Wings present ----------	go to 4
b)	Wings absent ----------	Bedbug
4.a)	Two pairs of wings ----------	Batesian butterfly
b)	One pair of wings ----------	Apis mellifera
5.a)	Antennae present ----------	Crab
b)	Antennae absent ----------	Scorpion
6.a)	Shell present ----------	Snail
b)	Shell absent ----------	go to 7
7.a)	Prominent clitellum ----------	Earthworm
b)	No clitellum visible ----------	Leech

a) Use the dichotomous key to identify each of the animal specimens provided.

In each case show the sequence of steps that you followed to arrive at the identity of each specimen.

(7 marks)

Specimen	Steps followed	Identity
A		
B		
C		
D		
E		
F		
G		

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

b) i) Name the class to which specimen D belongs. (1 mark)

……

……

ii) Name **two** observable features used to classify specimen D in (b) (i) above. (2 marks)

……

……

……

……

c) i) Name the type of skeleton found in organism A. (1 mark)

……

……

ii) Name **one** function of the skeleton found in c(i) above. (1 mark)

……

……

……

d) State **two** economic importance of specimen A in an ecosystem. (2 marks)

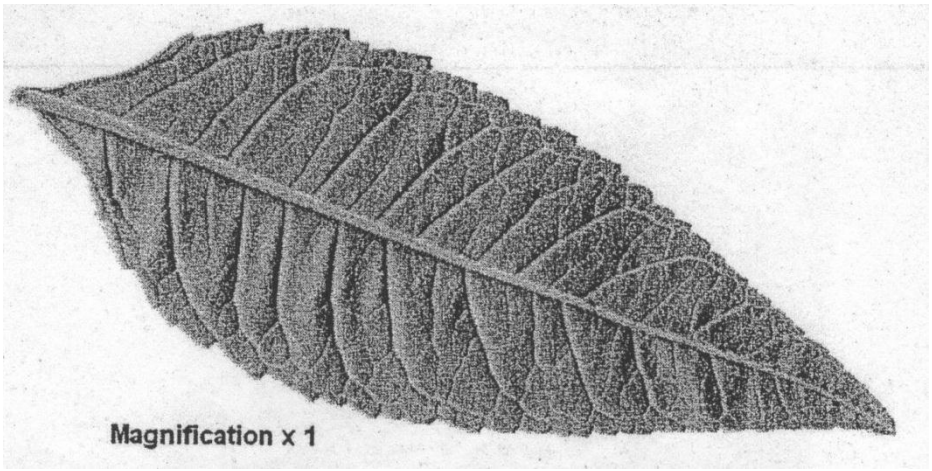
……

……

……

……

3.Figure 1.1 below shows the lower surface of a dicotyledonous leaf.

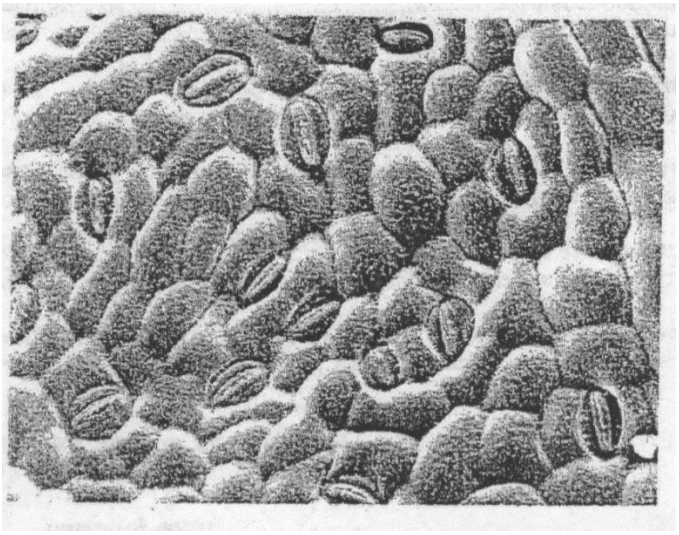


Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

a) Make a labelled drawing of the leaf.

Your drawing should be of the same size as that shown in the figure 1.1 (6 marks)

b) Figure 1.2 below shows part of the lower surface of the leaf in figure 1.1 as seen under a light microscope.



i) On the figure 1.2, label using lines two different types of cells. (2 marks)

ii) On the figure 1.2 put a circle around two of the cells where chloroplasts are normally present. (2 marks)

c) Suggest how you could determine the number of stomata present on one surface of a whole leaf. (4 marks)

……

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

565/1
BUSINESS STUDIES
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS OF CANDIDATES

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

b) Write the date of examination and sign in the spaces provided above.

c) Answer **ALL** the questions.

d) **ALL** answers must be written in the spaces provided in this booklet.

e) Do not remove any pages from this booklet.

f) This paper consists of **7** printed pages.

g) 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

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

QUESTIONS	14	15	16	17	18	19	20	21	22	23	24	25
MARKS												

GRAND TOTAL	

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

1. Highlight **four** advantages of using modern technology in production. (4 marks)

……

……

……

……

……

……

2. State **four** types of complaints that a consumer organization may receive from consumers. (4 marks)

……

……

……

……

……

……

3. Outline **four** features of parastatals. (4 marks)

……

……

……

……

……

……

4. State **four** reasons why ethical practice is necessary in product promotion. (4 marks)

……

……

……

……

……

……

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

5. Outline **four** advantages of hire purchase to the buyer. (4 marks)

……

……

……

……

……

……

6. State the ledger in which of the following accounts are kept. (4 marks)

			Account	**Ledger**
a)	Rent a/c			
b)	Cash a/c			
c)	Debtors a/c			
d)	Creditors a/c			

7. Outline **four** factors that may make a producer to by-pass a wholesaler when distributing goods. (4 marks)

……

……

……

……

……

……

8. Country X is experiencing unfavorable terms of trade.

State **four** factors that are likely lead to such a situation. (4 marks)

……

……

……

……

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

……

……

9. The following are some of the source documents used in accounting: credit note issued, cash sale receipt, credit note received and invoice issued. Match each of the following books of original entry with the relevant source document. (4 marks)

			Book of original	**Source documen**
a)	Sales returns book			
b)	Sales daily book			
c)	Purchases return book			
d)	Cash book			

10. State **four** reasons why flower exporters would transport their produce by air rather than by sea. (4 marks)

……

……

……

……

……

……

11. Outline **four** circumstances that may necessitate re-insurance. (4 marks)

……

……

……

……

……

12. The following balances were extracted from the books of Saku traders on 31st march 2010.

Determine the net worth of the business as at 31st march 2010 . (4 marks)

Fixed assets	300,000
Current assets	123, 700
Creditors	84,500
5 year loan	125,000

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

13. State **four** problems associated with development planning. (4 marks)

……

……

……

……

……

……

14. Outline **four** demerits of indirect tax. (4 marks)

……

……

……

……

……

……

15. List **four** factors that may limit entrepreneurs in an area. (4 marks)

……

……

……

……

……

……

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

16. Outline **four** challenges that may be encountered when measuring national income using the output approach. (4 marks)

……

……

……

……

……

……

17. The table below represents the demand schedule for tea leaves in 6 months in 2015.

Months	1	2	3	4	5	6
Quantity (kgs)	200	400	600	800	1000	1200

Outline **four** causes of the trend in the table. (4 marks)

……

……

……

……

……

……

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

……

……

……

……

……

……

19. Sate **four** external factors that may negatively influence the operation of a business. (4 marks)

……

……

……

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

……
……
……
……

20. Highlight **four** negative effects of inflation. (4 marks)

……
……
……
……
……
……

21. Outline **four** benefits to a business that uses its own warehouse. (4 marks)

……
……
……
……
……
……

22. The following balances were extracted from the books of Wekesa Traders on 31st December 2009.

Item	**Sh**
Capital	500,000
Cash in Hand	20,000
Building	200,000
Furniture	25,000
Motor vehicle	400,000
Creditors	18,000
Debtors	36,000
Bank	100,000
Bank loan	263,000

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

Using the above information prepare Wekesa traders trial balance as at 31st December 2009 . (4 marks)

23. Outline **four** reasons why hypermarkets are becoming increasingly popular in Kenya. (4 marks)

……

……

……

……

……

……

24. The table below shows the age distribution of a country.

Age in Years	**% population**
0 – 15	45
16 – 55	31
56 and above	24

Highlight **four** negative economic implication of this age distribution to the country. (4 marks)

……

……

……

……

……

……

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

25. Outline **four** measures that a manager can take to improve the working environment in an office.
(4 marks)

……

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

565/2
BUSINESS STUDIES
PAPER 2
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name, school and index number in the spaces provided above.
2. Write the date of examination and sign in the spaces provided above.
3. This paper consists of **6** questions.
4. Answer **any five** questions.
5. Write your answers in the answer booklet provided.
6. All questions carry equal marks.
7. This paper consists of **3** printed pages.
8. Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

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

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

1. a) Discuss **five** causes of unemployment in Kenya today. **(10 marks)**

b) Explain **five** roles of transport to the economy of a country. **(10 marks)**

2. a) Discus **five** roles of public finance. **(10 marks)**

b) Explain **five** barriers to effective communication. **(10 marks)**

3. a) Highlight **four** problems likely to be faced by consumers when a firm operates as a Monopoly. **(8 marks)**

b) The following trial balance was extracted from the books of Tumaini Traders as at 30th June 2015.

DETAILS	DR	CR
Stock on 1st July 2014	180,000	
Debtors and creditors	195,000	120,000
Discounts	75,000	96,000
Sales and purchases	1,200,000	1,740,000
Premises	1,630,000	
Carriage outwards	24,000	
Returns	60,000	150,000
Fixture and fittings	300,000	
Carriage inwards	100,000	
Machinery	600,000	
Commissions	48,000	42,000
Capital		2,454,000
Wages & salaries	90,000	
Cash in Bank	420,000	
Rent income		110, 000
	4,712,000	4,712,000

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

Additional information

Closing stock was valued at sh 210,000.

Required

i) Prepare a trading, profit and loss account for the year ended 30th June 2015. **(8 marks)**

ii) Prepare Tumaini Trades balance sheet as at 31st June 2015. **(4 marks)**

4. a) Explain **five** ways in which the nature of a commodity may influence its distribution. **(10 marks)**

b) Outline **five** differences between a public limited company and partnership form of a business. **(10 marks)**

5. a) Explain **five** reasons for continued existence of small firms alongside large firms. **(10 marks)**

b) Explain **five** benefits enjoyed by a firm that has expanded its scale operations. **(10 marks)**

6. a) Explain **five** instruments of monetary policy a central bank may use to reduce money supply in a country. **(10 marks)**

b) On January 2005 Njeri traders had the following transactions.

2005 January

1: Started business with capital sh.80,000 cash and sh.200,000 at the bank

2: Bought furniture by cheque sh.20,000

3: Bought goods by cheque sh.70,000

8: Received cash from Chemai sh.19,000 having allowed him a cash discount of sh.1,000

9: Paid the following accounts by cheque:-
Muthoni sh.30,000, Salim sh.15,000 and Kiptoo sh.26,000 having deducted 10% discount in each case

12: Cash sales sh.14,000, paid for postage in cash sh.2,000

16: Received a cheque of sh.27,500 from Ngondi in full settlements of his account of sh.30,000

20: Received cheque of the following amounts from: Adijah sh.18,000, Adongo sh.28,800 and Maranga sh.12,600. The business had allowed each of them a discount of 10%

Required:

Prepare a three column cashbook and balance it off. **(10 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

233/1
CHEMISTRY
PAPER 1
(THEORY)
TIME: 2 HOURS

INSTRUCTIONS

1.Write your name and index no. in the spaces provided above.

2.Sign and write the date of examination in the space provided above.

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

4.Mathematical tables and silent electronic calculators may be used.

5.All working **MUST** be clearly shown where necessary.

6.This paper consists of **11** printed pages.

7.Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1 – 29	**80 marks**	

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

1. The table below shows the pH values of some solutions.

Solutions	**J**	**K**	**L**	**M**	**N**
pH	**6**	**13**	**2**	**10**	**7**

a) Which solution is likely to be:

i) Potassium hydroxide. **(1 mark)**

……

……

ii) Lemon juice. **(1 mark)**

……

……

b) Explain why a solution of hydrogen chloride gas in methylbenzene was identified as N. **(1 mark)**

……

……

……

c) Compare the electrical conductivity of solution J and L. **(1 mark)**

……

……

……

……

2. Name the process that takes place when:

i) Sulphur is heated with natural rubber. **(1 mark)**

……

……

ii) Fats or oils are hydrolysed using an alkali. **(1 mark)**

……

……

……

……

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

3. a) Oxygen is obtained by fractional distillation of liquid air.

Name **two** other gases which are obtained from this process during distillation. **(1 mark)**

……

……

……

……

b) Give **two** industrial uses of oxygen gas. **(2 marks)**

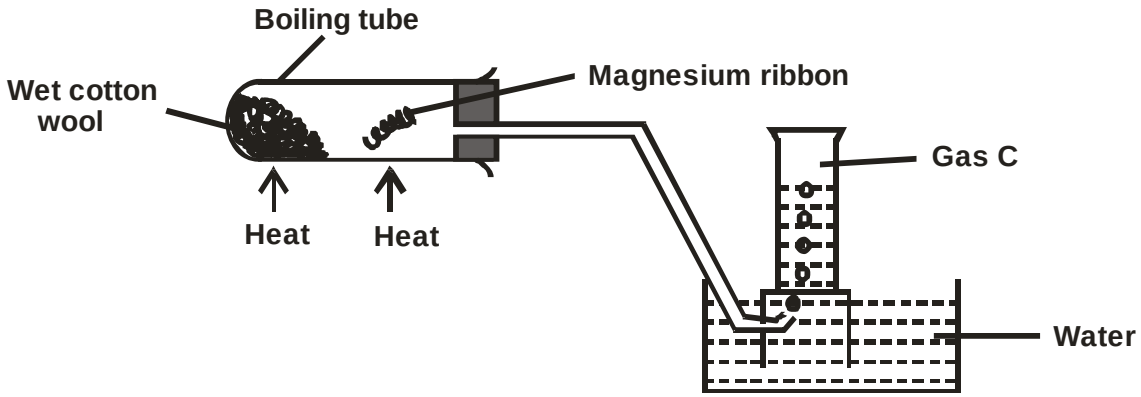
……

……

……

……

4. The diagram below represents the apparatus used to react steam with magnesium.



a) State an observation made in the boiling tube. **(1 mark)**

……

……

b) Write an equation for the reaction that takes place in the boiling tube. **(1 mark)**

……

……

c) State and explain **one** precaution required before the heating is stopped. **(2 marks)**

……

……

……

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

5. State and explain how an increase in pressure will affect the equilibrium position in the following reactions.

a) $2SO_{2\,(g)} + O_{2\,(g)} \rightleftharpoons 2SO_{3\,(g)}$ **(1 mark)**

……

……

……

b) $H_{2\,(g)} + Cl_{2\,(g)} \rightleftharpoons 2HCl_{\,(g)}$ **(1 mark)**

……

……

……

……

6. Given a mixture of sodium chloride, silver chloride and ammonium chloride, describe how each component can be obtained. **(2 marks)**

……

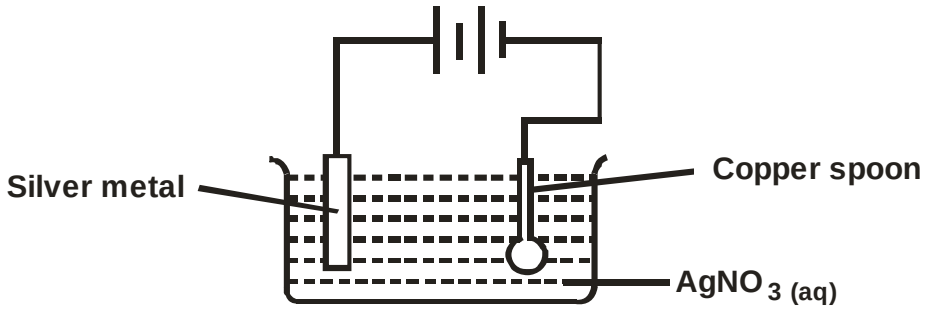
……

……

……

……

7. A copper spoon was coated with silver metal as shown below.



i) Write an equation for the reaction that occurs at the copper spoon (cathode). **(1 mark)**

……

……

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

ii) How many grams of silver would be deposited on the spoon in two hours using steady current of 0.03A? (IF = 96500C, Ag = 108.0) **(3 marks)**

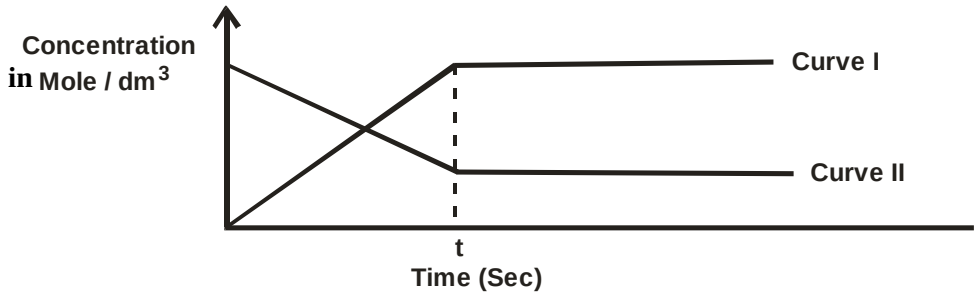
8. Using dost (•) and crosses (**X**) to represent electrons, show bonding in

a) Ammonia molecule. **(1 mark)**

b) Calcium oxide. **(1 mark)**

9. The curve below represents the changes in the concentration of substances E and F with time in the equation.

$E_{(g)} \rightleftharpoons F_{(g)}$



a) Which curve represents the changes in the concentration of substance F? Give a reason.(2 marks)

……

……

……

……

……

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

b) Give a reason for the shapes of the curves after time (t) seconds. **(1 mark)**

……

……

……

10. The following two tests were carried out on chlorine water contained in two test-tubes.

a) A piece of blue flower was dropped into the first test-tube. Explain why the flower bleached. (2 marks)

……

……

……

……

b) The second test-tube was corked and exposed to sunlight.

After a few days, it was found to contain a gas that rekindled a glowing splint.

Write an equation for the reaction which produced the gas. (1 mark)

……

……

11. State any **two** differences between a luminous and a non-luminous flame. **(2 marks)**

……

……

……

……

……

12. Potassium hydroxide of mass Yg was dissolved in distilled water to make $200cm^3$ of solution.

$100cm^3$ of the solution required $100cm^3$ of 2M nitric acid for complete neutralization.

Calculate the value of Y. (K = 39, O = 16, H = 1) **(3 marks)**

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

13. Explain how electrical conductivity may be used to distinguish between magnesium oxide and silicon (IV) oxide. **(3 marks)**

……

……

……

……

……

14. In the nuclear reaction below:

$$^{235}_{92}U + {}^{1}_{0}n \longrightarrow {}^{90}_{42}Sr + {}^{x}_{y}Xe + 3\,{}^{1}_{0}n + \text{Energy}$$

a) Identify the value of x and y.

x **(½ mark)**

y **(½ mark)**

b) State **two** applications for radioisotopes. **(1 mark)**

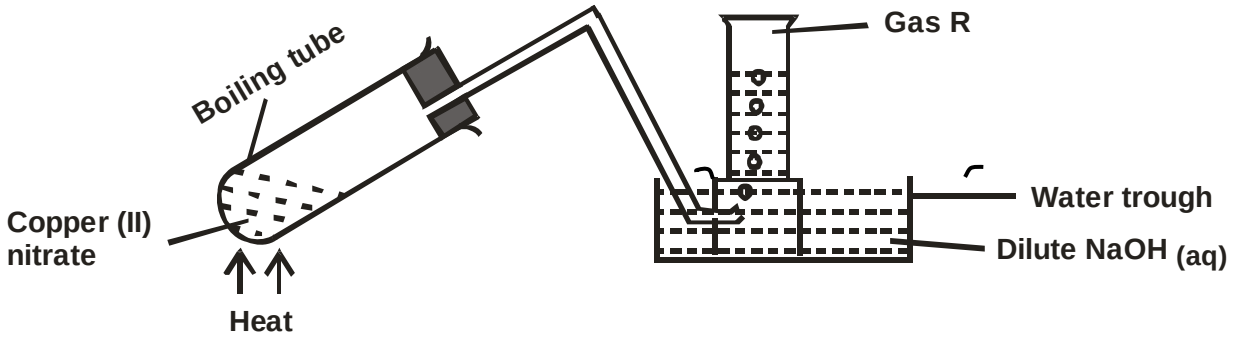
……

……

……

……

15. The diagram below shows the effect of heat on copper (II) nitrate.



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

a) State **two** observations made in the boiling tube. **(1 mark)**

……

……

……

b) Write the equation for the reaction that takes place in the water trough. **(1 mark)**

……

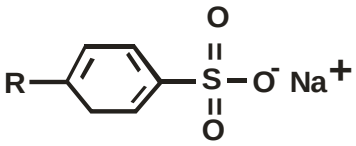
……

c) How would you confirm the identity of gas R? **(1 mark)**

……

……

16. The structure below represents a cleaning agent which is said to have both an advantage and a disadvantage.



a) Which type of cleaning agent does the structure above represent? **(1 mark)**

……

……

b) State:

i) **one** advantage **(1 mark)**

……

……

ii) **one** disadvantage **(1 mark)**

……

……

17. a) State and explain Boyle's law on the behavior of gases. **(2 marks)**

……

……

……

……

……

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

b) State **two** conditions under which gases are likely to behave as ideal. **(1 mark)**

……

……

……

……

18. Both diamond and graphite have giant atomic structures.

Explain why diamond is hard while graphite is soft. **(2 marks)**

……

……

……

……

……

19. a) What is meant by the terms

i) Element **(1 mark)**

……

……

……

ii) Atomic number **(1 mark)**

……

……

……

b) The formula for a chloride of Titanium is $TiCl_3$. What is the formula for its sulphate? **(1 mark)**

……

……

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

20. A student investigated the effect of an electric current by passing it through some substances. The student used inert electrodes and connected a bulb to the circuit.

The table below shows the substances used and their states.

Experiment	**Substance**	**State**
1	Potassium carbonate	Solid
2	Copper (II) Sulphate	Solution
3	Sugar	Solution
4	Lead (II) Iodide	Molten

a) In which experiment did the bulb not light? **(1 mark)**

……

……

b) Explain your answer in (a) above. **(2 marks)**

……

……

……

……

21. a) Name **one** natural polymer. **(1 mark)**

……

……

b) Give **one** advantage of synthetic fibres over natural fibres. **(1 mark)**

……

……

……

22. The table below gives the atomic numbers of elements, W, X, Y and Z. the letters do not represent the actual symbols of the elements.

Element	W	X	Y	Z
Atomic number	9	10	11	12

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

a) Which one of the elements is least reactive? Explain. **(1 mark)**

……

……

……

b) i) Which **two** elements would react most vigorously with each other? **(1 mark)**

……

……

……

ii) Give formula of the compound formed when the elements in b (i) react. **(1 mark)**

……

……

23. a) Name **two** ores from which copper is extracted? **(1 mark)**

……

……

……

b) During extraction of copper metal, the ore is subjected to froth flotation.
Give a reason why this process is necessary. **(1 mark)**

……

……

……

c) Name **one** alloy of copper and state its use. **(1 mark)**

……

……

……

24. The table below is part of the periodic table. The letters do not represent the actual symbols of the elements. Study it and answer the questions that follow.

					C	D	E	F
G	H						I	

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

a)Select an element which is stored in paraffin in the laboratory. **(1 mark)**

……

……

b) How do the Ionic radii of E and I compare? Explain. **(2 marks)**

……

……

……

……

……

25. Use the information below to answer the questions that follow.

Equation	Enthalpy of formation
$H_{2\,(g)} + ½O_{2\,(g)} \rightarrow H_2O_{\,(l)}$	$\Delta H_1 = -286\ KJmol^{-1}$
$C_{\,(s)} + O_{2\,(g)} \rightarrow CO_{2\,(g)}$	$\Delta H_2 = -394\ KJmol^{-1}$
$2C_{\,(s)} + 3H_{2\,(g)} + ½O_{2\,(g)} \rightarrow C_2H_5OH_{\,(l)}$	$\Delta H_3 = -277\ KJmol^{-1}$

a) Define the term enthalpy of formation of a compound. **(1 mark)**

……

……

……

b) Calculate the molar enthalpy of combustion ΔH_4 of ethanol.

$C_2H_5OH_{\,(l)} + 3O_{2\,(g)} \rightarrow 2CO_{2\,(g)} + 3H_2O_{\,(l)}$ **(2 marks)**

26. Nitrogen forms many compounds in which its oxidation state varies.

a) What is meant by oxidation state? **(1 mark)**

……

……

……

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

b) What is the oxidation state of nitrogen in Mg_3N_2? **(1 mark)**

c) Explain why high temperature is required for nitrogen to react with oxygen. **(1 mark)**

……

……

……

27. Draw and name the isomers of pentane. **(3 marks)**

28. When a student was stung by a nettle plant a teacher applied an aqueous solution of ammonia to the affected area of the skin and the student was relieved of pain. Explain. **(2 marks)**

……

……

……

……

29. Distinguish between ionization energy and electron affinity of an element. **(2 marks)**

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

233/2
CHEMISTRY
PAPER 2
(THEORY)
TIME: 2 HOURS

INSTRUCTIONS:

- Write your name, school and index number in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- Answer **ALL** the questions in the spaces provided.
- Mathematical tables and silent electronic calculators may be used.
- All working must be clearly shown where necessary.
- This paper consists of **12** printed pages.
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

Question	Maximum score	Candidate's score
1	12	
2	12	
3	8	
4	12	
5	15	
6	12	
7	9	
Total score	**80**	

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

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

Element	Atomic number	Relative atomic mass	Melting point (°C)
Aluminum	13	27.0	
Calcium	20	40.0	850
Carbon	__	12.0	3730
Hydrogen	__	1.0	- 259
Magnesium	12	24.0	650
Neon	__	20.0	- 249
Phosphorous	15	31.0	44.2 white 590 red
sodium	__	23	97.8

a) Complete the table by filling in the missing atomic numbers. **(2 marks)**

b) Write the electron arrangement for the following ion. **(2 marks)**

i) Ca^{2+}

……

ii) P^{3-}

……

c) What is the melting point of hydrogen in Kelvin? **(1 mark)**

……

……

d) Which of the allotropes of phosphorous has a higher density? Explain. **(2 marks)**

……

……

……

……

e) The mass numbers of three isotopes of magnesium are 24, 25 and 26.

What is the mass number of the most abundant isotope of magnesium? Explain. **(2 marks)**

……

……

……

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

……

……

f) Give the formula of the compound formed between aluminum and carbon. **(1 mark)**

……

……

g) Explain the difference in the melting points of magnesium and sodium. **(2 marks)**

……

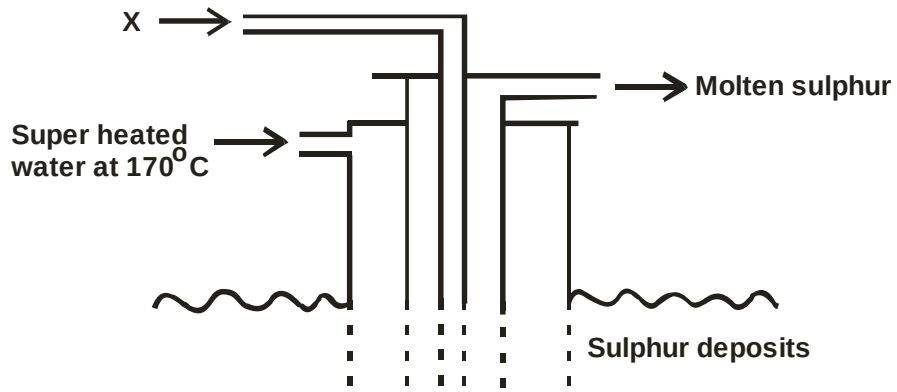
……

……

……

2. a) The diagram below shows the Frasch process used for extraction of sulphur.

Use it to answer to answer the questions that follow.



i) Identify X. **(1 mark)**

……

……

ii) Why is it necessary to use super-heated water in this process? **(1 mark)**

……

……

……

iii) State **two** physical properties of sulphur that makes it possible for it to be extracted by this method. **(2 marks)**

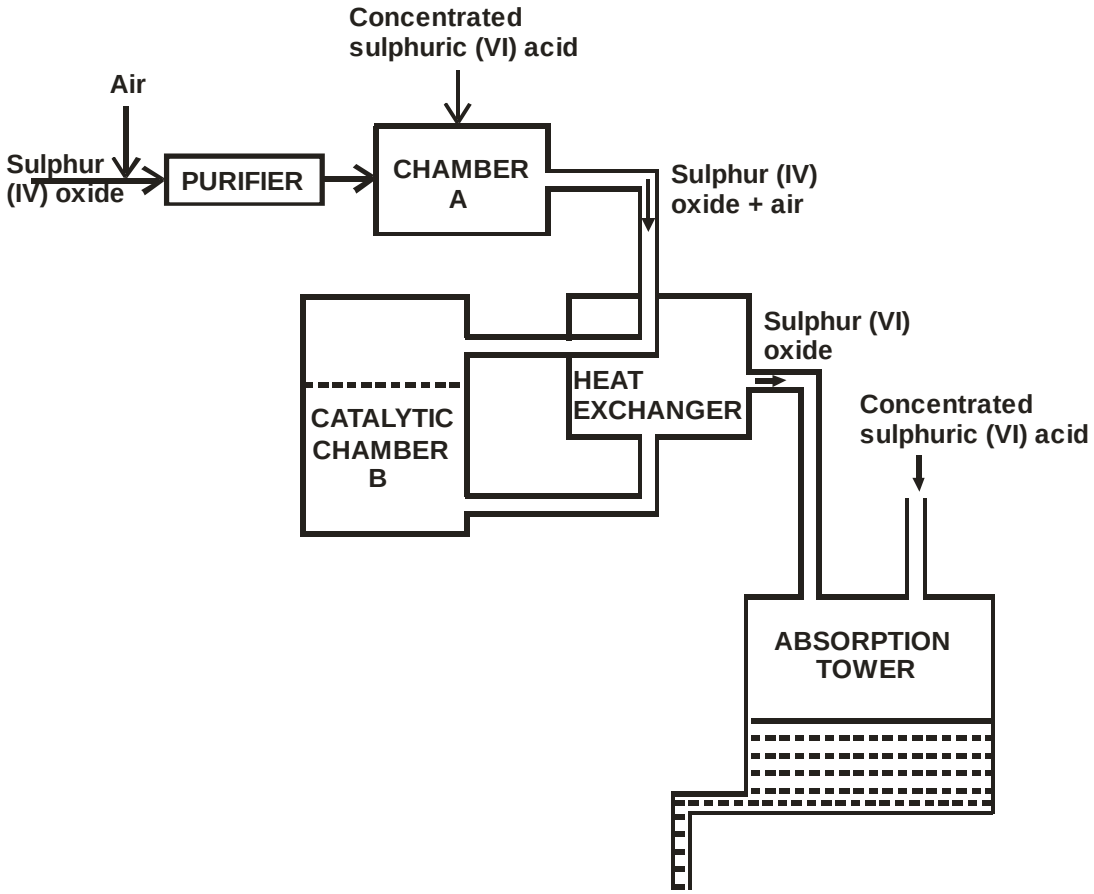
……

……

……

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

b) The diagram below shows part of the process in the manufacture of suphuric (VI) acid. Study it and answer the questions that follow.



i) Write an equation for the formation of sulphur (IV) oxide from sulphur. **(1 mark)**

……

……

ii) What it the role of concentrated sulphuric (VI) acid in chamber A? **(1 mark)**

……

……

iii) Name **two** catalysts that can be used in the catalytic chamber B. **(1 mark)**

……

……

……

……

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

iv) State **two** roles of the heat exchanger. **(2 marks)**

……

……

……

……

c) Explain **one** way in which sulphur (IV) oxide is a pollutant. **(1 mark)**

……

……

……

d) What observation will be made when a few drops of concentrated sulphuric (VI) acid are added to crystals of sugar? Explain your answer. **(2 marks)**

……

……

……

……

3. a) State **two** factors that should be considered when choosing a fuel for cooking. **(2 marks)**

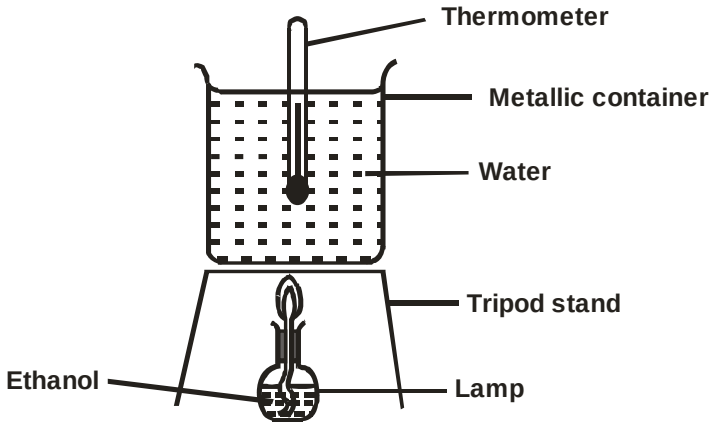
……

……

……

……

b) The diagram below represents a set-up that was used to determine the molar heat of combustion of ethanol.



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

During the experiment the data given below was recorded.

Volume of water = $450cm^3$

Initial temperature of water = 25^oC

Final temperature of water = 46.5^oC

Mass of ethanol + lamp before burning = 125.5g

Mass of ethanol + lamp after burning = 124.0g

Calculate the:

i) Heat evolved during the experiment.

(Density of water = $1g/cm^3$ specific heat capacity of water = $4.2Jg^{-1}K^{-1}$). **(2 marks)**

ii) Molar heat of combustion of ethanol (C = 12, O = 16, H = 1). **(2 marks)**

c) Write the equation for the complete combustion of ethanol. **(1 mark)**

……

……

d) The value of the molar heat of combustion of ethanol obtained in b (ii) above is lower than the theoretical value. State **one** source of error in the experiment. **(1 mark)**

……

……

4. a) Crude oil is a source of many compounds that contain carbon and hydrogen only.

i) Name the process used to separate the components of crude oil. **(1 mark)**

……

……

ii) State **two** physical properties of the above components that determine the separation. **(2 marks)**

……

……

……

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

……

……

b) Under certain conditions, Heptane can be converted to two products.

The formula of one of the products is C_3H_8.

i) Write the formula of the other product. **(1 mark)**

……

……

ii) Determine a simple chemical reaction to show the difference between the two products formed in b(i) above. **(2 marks)**

……

……

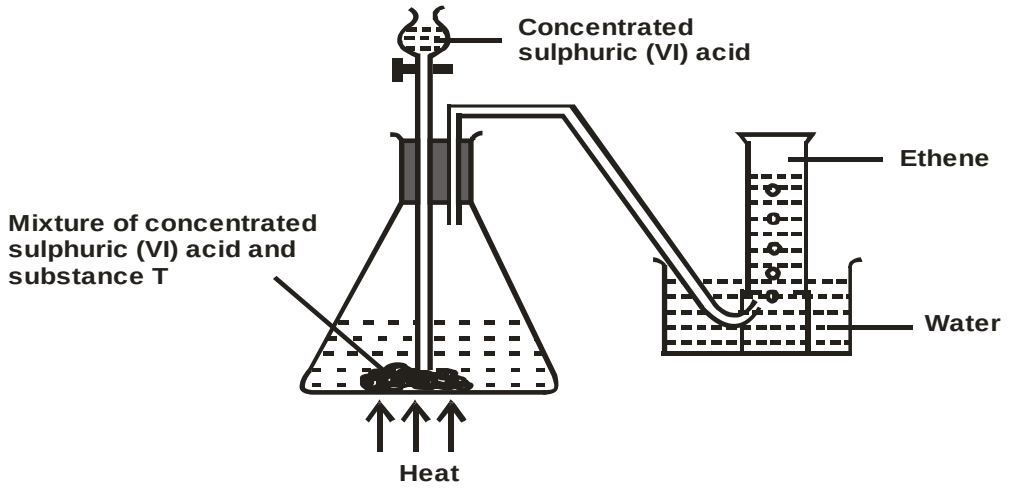
……

……

c) Butyne C_4H_6 is another compound found in crude oil. One mole of butyne was reacted with one mole of hydrogen chloride gas and a product P1 was formed. P1 was then reacted with excess hydrogen gas to form P2. Draw the structure of P1 and P2. (2 marks)

d) The set up below was used to prepare and collect ethene gas.

Study it and answer the questions that follow.



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

i) Name substance T. **(1 mark)**

……

……

ii) Give the property of ethene that allows it to be collected as shown in the set-up. **(1 mark)**

……

……

……

e) One of the reactions undergone by ethene is addition polymerization.

Give the name of the polymer and **one** disadvantage of the polymer it forms. **(2 marks)**

Name _____

Disadvantage _____

5. a) The standard electrode potentials for the elements chloride and magnesium are:

$Cl_{2\,(aq)} + 2e^- \rightarrow 2Cl^-_{(aq)}$ $E^\theta = +1.36V$

$Mg^{2+}_{(aq)} + 2e^- \rightarrow Mg_{(s)}$ $E^\theta = -2.36V$

i) Which one for the two elements will act as an oxidizing agent? Explain your choice. **(2 marks)**

……

……

……

……

ii) Calculate the electromotive force of a cell where the overall reaction is:

$Cl_{2\,(aq)} + Mg_{\,(s)} \rightarrow MgCl_{2\,(aq)}$ **(1 mark)**

b) The table below gives the standard electrode potentials for divalent metals represented by the letters P, Q, R and S (not their symbols of elements). Use it to answer the question that follow.

Metal	E^θ (volts)
P	+1.50
Q	+0.44
R	+0.34
S	–0.76

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

i) Which one of the metals cannot be displaced from a solution of its ions by any other metals in the table? Explain. **(2 marks)**

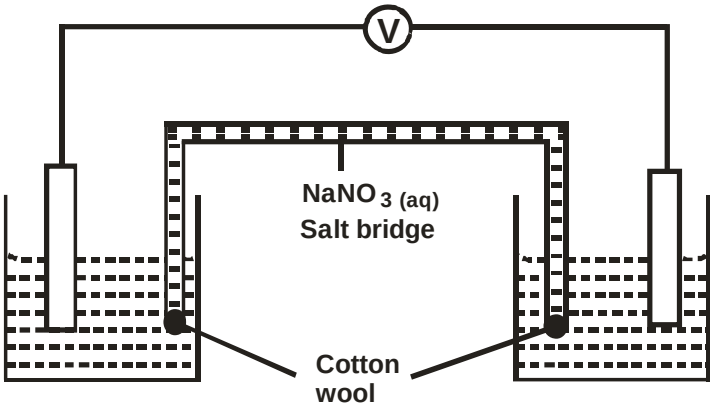
……

……

……

……

ii) Metals P and Q were connected to from a cell as shown in the diagram below.



I. On the diagram label the metals P and Q and indicate the ions in solution. **(2 marks)**

II. Write equations (half equations) of the reactions taking place at the electrodes.

Electrode P **(1 mark)**

……

……

Electrode Q **(1 mark)**

……

……

III. State **two** functions of the salt bridge. **(2 marks)**

……

……

……

……

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

IV. What must be observed about the choice of a salt bridge? **(1 mark)**

……

……

……

iii) A metallic couple of the metal S and Z produced a voltage of +1.71volts.
(Assume that S has the higher negative electrode potential)

I. Calculate the standard electrode potential (S.E.P) for metal Z. **(1 mark)**

II. Arrange the metals P, Q, R and Z in their decreasing order of reactivity. **(2 marks)**

6. a) Define the term solubility. **(1 mark)**

……

……

……

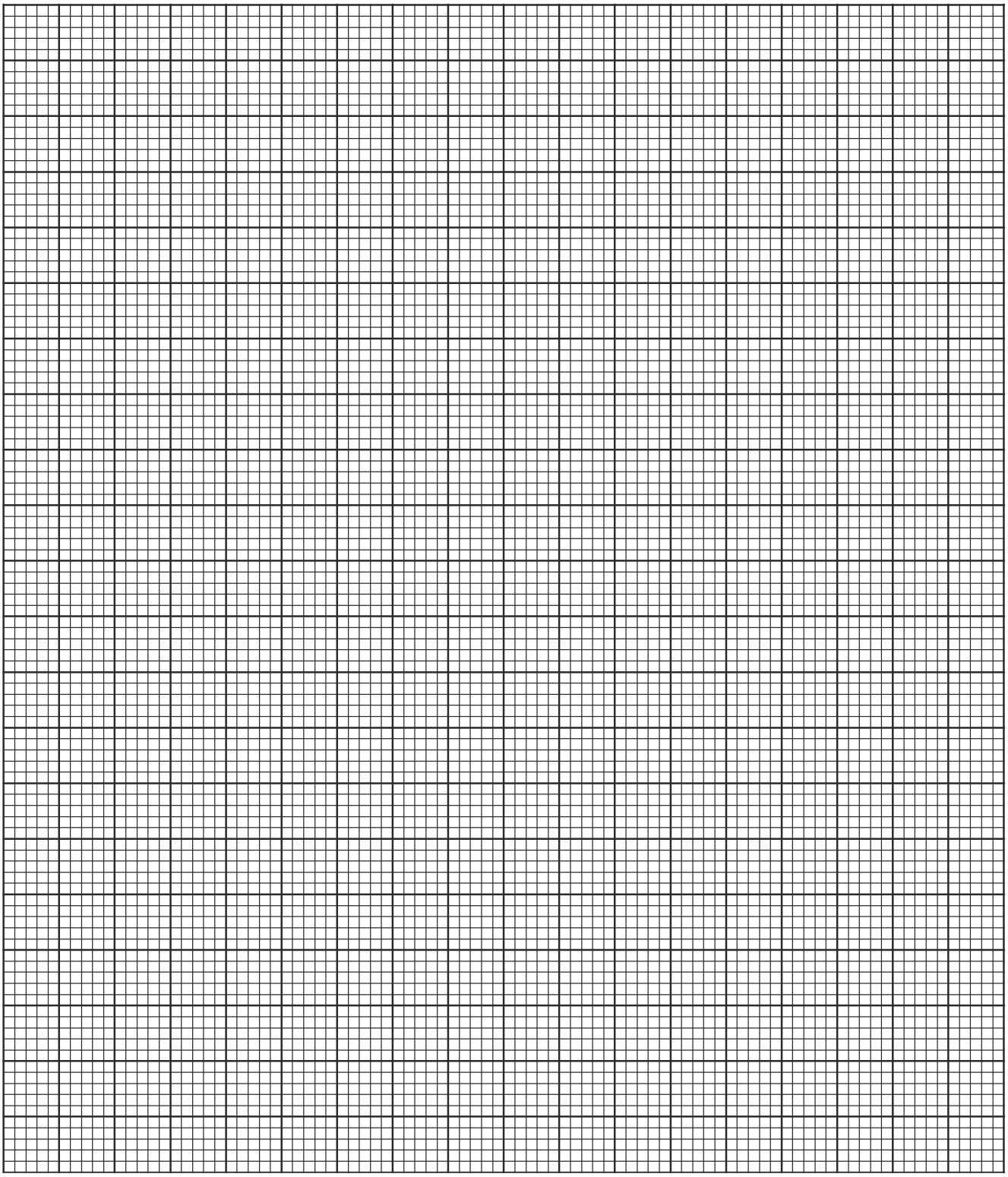
……

b) In an experiment to determine the solubility of two salts X and Y at different temperatures, a candidate recorded her observations as shown below.

Temperature (^oC)	0	10	20	30	40	50	60	70	80	90
Solubility of X in g/100g of H_2O	14.3	17.4	20.7	25.0	28.5	33.3	40.0	47.0	55.0	64.0
Solubility of Y in g/100g of H_2O	25.0	27.5	30.0	32.5	35.0	37.6	40.1	42.4	45.0	48.0

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

On the same axes plot the solubility curves of X and Y against temperature. **(5 marks)**



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

c) From the graph determine;

i) Solubility of X and Y at 47^{o}C.

Solubility of X. **(½ mark)**

……

……

Solubility of Y. **(½ mark)**

……

……

ii) The temperature at which the two salts have the same solubility in water. **(1 mark)**

……

……

d) If 60g of X is dissolved in 100g of water and heated to 90^{o}C, calculate the amount of salt that crystallized out if cooled to 20^{o}C. **(1 mark)**

e)State what would happen if a mixture of salt X in 100g of water and 30g of Y in 100g of water were cooled from 90^{o}C to 70^{o}C. **(2 marks)**

……

……

……

……

f) State **one** application of solubility. **(1 mark)**

……

……

……

7. In an experiment, a piece of magnesium ribbon was cleaned with steel wool. 2.4g of the clean magnesium ribbon was placed in crucible and completely burnt in oxygen.

After cooling, the product weighed 4.0g.

a) Explain why it is necessary to clean the magnesium ribbon. **(1 mark)**

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

……

……

……

b) What observation was made in the crucible after burning? **(1 mark)**

……

……

……

c) Why was there an increase in mass? **(1 mark)**

……

……

……

d) Write the equation for the reaction which took place in the crucible. **(1 mark)**

……

……

e) The product in the crucible was shaken with water and filtered.

Explain the observation which was made when blue and red litmus papers were dropped into the filtrate. **(2 marks)**

……

……

……

……

f) Calculate the volume of oxygen gas used during the burning.

(O = 16, molar volume of gas = 24000cm^3 at room temperature) **(3 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……..

SCHOOL: ……...…….

ADM NO: …….. SIGN: ……. DATE: ……...

233/3
CHEMISTRY
PAPER 3
(PRACTICAL)
TIME: $2\frac{1}{4}$ HOURS

INSTRUCTIONS:

- Write your name and index number in the spaces provided above.
- Answer **ALL** questions in the spaces provided.
- You are **NOT** allowed to start working with the apparatus for the first 15minutes of the $2\frac{1}{4}$ hours allowed for this paper. This time will enable you read through the question paper and make sure you have all the chemicals and apparatus required.
- Mathematical tables and electronic calculators may be used.
- All working **must be** clearly shown where necessary.
- This paper consists of **8** printed pages
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	21	
2	12	
3	07	
TOTAL SCORE	40	

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

1. You are provided with;

- Aqueous hydrochloric acid labeled solution A.
- Solution B containing 8.0 g per litre of sodium carbonate.
- An aqueous solution of substance C labeled solution C.

You are required to determine the;

- Concentration of solution A.
- Enthalpy of reaction between hydrochloric acid and substance C.

Procedure I

Using a pipette and pipette filler, place 25.0cm^3 of solution A into a 250ml, volumetric flask.
Add distilled water to make 250cm^3 of solution. Label this solution D.

Place solution D in a burette. Clean the pipette and use it to place 25.0cm^3 of solution B into a conical flask. Add 2 drops of methyl orange indicator provided and titrate with solution D. Record your results in table 1. Repeat the titration two more times and complete the table.

Table 1

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

(4 marks)

Calculate;

i) Average volume of solution D used. **(1 mark)**

ii) Concentration of sodium carbonate in solution B.
(Na = 23.0, O = 16.0, C = 12.0) **(1 mark)**

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

iii) Concentration of hydrochloric acid in solution D. **(2 marks)**

iv) Concentration of hydrochloric acid in solution A. **(1 mark)**

Procedure II

Using a clean burette, place 2 cm^3 of solution A into a boiling tube. Take the initial temperature of the solution in the boiling tube and record it in table 2. Using a clean measuring cylinder, measure 14 cm^3 of solution C into 100cm^3 beaker and add it to a solution A in the boiling tube. Stir the mixture immediately with a thermometer and record in table 2 the highest temperature reached. Repeat the experiment with the other sets of volumes of A and C in the table and complete it.

(Rinse the thermometer and the boiling tube with distilled water after each experiment)

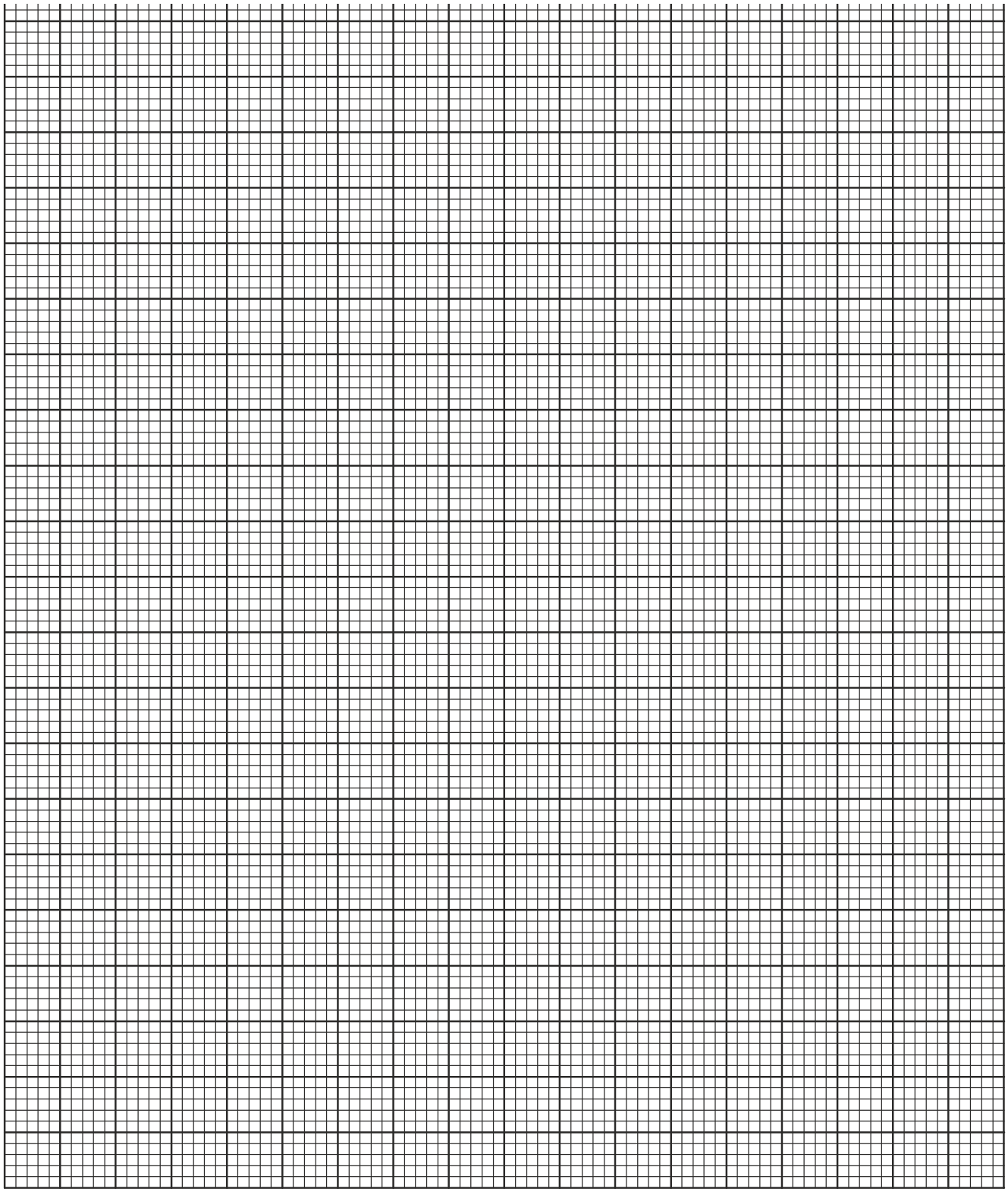
Table 2

Volume of solution A (cm^3)	2	4	6	8	10	12	14
Volume of solution C (cm^3)	14	12	10	8	6	4	2
Initial temperature of solution C (°C)							
Highest temperature of solution C (°C)							
Change in temperature ΔT (°C)							

(5 marks)

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

i) On the grid provided, draw a graph of ΔT (vertical axis) against volume of solution A used . **(3 marks)**



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

ii) From the graph, determine;

I The maximum change in temperature. **(½ mark)**

……

……

II. The volume of solution A required to completely neutralize solution C. **(½ mark)**

……

……

iii) Calculate the;

I. Number of moles of hydrochloric acid required to completely neutralize solution C. **(1 mark)**

II. Molar enthalpy of reaction between hydrochloric acid and substance C (in kilojoules per mole of hydrochloric acid). Assume the specific heat capacity of the solution is 4.2 $Jg^{-1}K^{-1}$ and density of solution is 1.0 gcm^{-3}. **(2 marks)**

2. You are provided with solid Q. Carry out the following tests on Q and record your observations and inferences in the spaces provided.

a) Place a spatula of solid Q into a boiling tube and add 12 cm^3 of distilled water. Shake the mixture thoroughly. Divide the mixture into five portions.

Observations	Inferences
(1 mark)	(1 mark)

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

b) To the first portion, add 5 cm^3 of 2M Nitric (V) acid.

Observations	Inferences
(1 mark)	(1 mark)

c) To the second portion, add four drops of lead (II) nitrate solution.

Observations	Inferences
(1 mark)	(1 mark)

d) To the third portion, add four drops of Barium nitrate solution.

Observations	Inferences
(1 mark)	(1 mark)

e) To the fourth portion, add sodium hydroxide solution dropwise until in excess.

Observations	Inferences
(1 mark)	(1 mark)

f) To the fifth portion, add ammonia solution dropwise until in excess.

Observations	Inferences
(1 mark)	(1 mark)

3. You are provided with substance Y.

Carry out the following tests on Y and record your observations and inferences in the spaces provided.

a) Describe the appearance of solid Y. **(1 mark)**

……

……

……

……

b) Scoop a little solid Y with a clean metallic spatula and ignite it using non-luminous part of the Bunsen burner flame.

Observations	Inferences
(1 mark)	(1 mark)

c) Add about 10 cm^3 of distilled water to the remaining solid Y in a boiling tube.

Divide the resulting mixture into 2 portions.

i) To the portion one, add 3 drops of acidified potassium manganate (VII) solution.

Observations	Inferences
(1 mark)	(1 mark)

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

ii) To portion two, add sodium hydrogen carbonate.

Observations	Inferences
(1 mark)	(1 mark)

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

451/1
COMPUTER STUDIES
PAPER 1
THEORY
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES:

- Write your name, index number and school in the spaces provided above.
- Write the date of examination and sign in the spaces provided.
- This paper consists of **two** sections.
- Answer **all** the questions in section **A.**
- Answer question **16** (compulsory) and **any other three** questions from section **B**.
- All answers **must** be written in the spaces provided in this question paper.
- *This paper consists of **10** printed pages*
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	ACTUAL SCORE
A	1 – 15	40	
B	16	15	
	17	15	
	18	15	
	19	15	
	20	15	
		TOTAL SCORE	

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 this section in the spaces provided

1. State the **two** functions of the control unit. **(2 marks)**

……

……

……

2. Explain **four** reasons which make microcomputers suitable for personal computing work. **(2 marks)**

……

……

……

……

……

……

3. State the functions of the following keyboard key combinations. **(3 marks)**

a) CTRL + ESC

……

……

b) ALT + F4

……

……

c) CTRL + ALT + DEL

……

……

4. Distinguish between an integrated software and a software suite. **(2 marks)**

……

……

……

……

5. Differentiate between embedded computers and dedicated computers. **(2 marks)**

……

……

……

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

……

……

……

6. Give **three** reasons why a company may prefer a tailor made software over off the shelf software. **(3 marks)**

……

……

……

……

7. Explain the function of the following registers. **(2 marks)**

a) Instruction registers

……

……

b) Address registers

……

……

8. a) Explain how a computer system can be protected from intruders. **(2 marks)**

……

……

……

……

b) State any **two** laws governing protection of information. **(2 marks)**

……

……

……

……

9. a) What is the meaning of graphics as used in word processing? **(1 mark)**

……

……

……

……

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

b) Give **two** sources of graphics in the computer. **(2 marks)**

……

……

……

……

10. a) State the cursor action when the following keyboard keys are pressed. **(2 marks)**

i) Delete key

……

……

ii) Insert key

……

……

iii) Pgup (page up) key

……

……

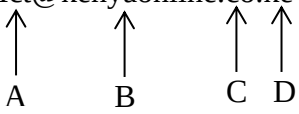
iv) Pgdwn (page down) key

……

……

11. Identify the parts of the following e-mail address labeled A, B, C and D. **(4 marks)**

Ict@kenyaonline.co.ke



A _____

B _____

C _____

D _____

12. a) What is a search engine? **(1 mark)**

……

……

……

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

b) Give **four** examples of search engines you know. **(2 marks)**

……

……

……

……

13. a) Define the following terms as used in a worksheet. **(2 marks)**

i) Columns

……

……

ii) Rows

……

……

b) Distinguish between absolute cell reference and relative cell reference. **(2 marks)**

Relative Referencing

……

……

……

Absolute referencing;

……

……

……

14. a) State **one** data processing file. **(l mark)**

……

……

b) Explain the function of the file named above in 14 (a). **(2 marks)**

……

……

……

……

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

15. Give **one** reason to the growth of communication industry in Kenya. **(l mark)**

……

……

……

SECTION B: (60 MARKS)

Answer question 16 and any other three questions from this section

16. a) List **two** examples of;

i) Third generation languages. **(2 marks)**

……

……

……

ii) Object oriented languages. **(2 marks)**

……

……

……

b) Define **(2 marks)**

i) Object code

……

……

……

ii) Source code

……

……

……

c) Differentiate between a compiler and an interpreter. **(2 marks)**

……

……

……

……

d) A car rental firm leases its cars for Kshs. 2500.00 per day. The manager gives a discount based on the number of days that the car is rented. If the rental period is greater than or equals to 7 days then

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

a 25% discount is given. Write a pseudocode to accept a car number and the rental period, and calculate the total amount earned by the company when a car is leased. **(7 marks)**

17. a) State **three** parameters that determines the magnitude of a number. **(3 marks)**

……

……

……

……

b) Using two's complement, show how the arithmetic below would be carried out on a 8 - bit computer system (+54) – (+29). **(5 marks)**

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

c) Using one's complement, perform the following binary arithmetic leaving the answer in decimal notation. **(5 marks)**

$1101_2 - 100101_2$

d) Differentiate between a word and a word length. **(2 marks)**

……

……

……

……

18. a) State the meaning of the following operating systems terms:

i) Interrupt **(1 mark)**

……

……

……

ii) Trouble shooting. **(1 mark)**

……

……

……

iii) Clock speed. **(1 mark)**

……

……

……

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

b) Differentiate the following. **(4 marks)**

i) Disk compression and disk defragmentation.

……

……

……

……

ii) Disk partitioning and disk formatting.

……

……

……

……

c) The operating system has several functions in a computer.

Explain how the operating system performs the following functions.

i) Error handling **(3 marks)**

……

……

……

……

……

ii) Resource control and allocation **(3 marks)**

……

……

……

……

……

d) Computer can fail to work due to problems associated with operating system.

Explain how the following problems can be corrected. **(2 marks)**

i) Runtime problems

……

……

……

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

ii) Corrupted registry

……

……

……

19. a) Giving examples, differentiate between hard system and soft system. **(4 marks)**

……

……

……

……

……

……

b) Explain the following system characteristics. **(2 marks)**

i) System control.

……

……

……

……

ii) Sub-systems

……

……

……

……

c) i) What is a closed system? **(1 mark)**

……

……

……

……

ii) Give **three** characteristics of a closed system. **(2 marks)**

……

……

……

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

……

……

d) Why is feedback necessary in a system? **(2 marks)**

……

……

……

……

e) Draw a diagram to show a system that is controlled through feedback. **(4 marks)**

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

20. a) Define the term Multiplexing as used in networking. **(1 mark)**

……

……

……

b) Describe the following signal wave properties. **(3 marks)**

i) Frequency of a wave

……

……

……

iii) Wavelength

……

……

……

iv) Amplitude

……

……

……

c) Use a diagram to distinguish between ring and star network topologies. **(2 marks)**

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

d) Give **one** advantage and **one** disadvantage of each of (c) above. **(4 marks)**

……

……

……

……

……

……

e) i) What is virtual reality? **(1 mark)**

……

……

……

ii) Describe **four** essential equipment to achieve virtual reality. **(4 marks)**

……

……

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

- This paper has **two** questions.
- Answer all the **questions.**
- All questions carry equal **marks.**
- Type your name and index number at the right hand corner of each print out.
- Write your name and index number on the storage medium provided.
- Write your name and version of software used for each question attempted.
- Passwords **should not** be used while saving in your work.
- Make a printout of the answers on the answer sheets provided
- Hand all the **print outs** and the **storage medium**
- This paper consists of **4** printed pages
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

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

1. a) Kirui's milling company limited has given you the details below to be used in calculating expenses incurred during two quarters of the year as indicated. Use a spreadsheet package to enter the details, and save your work as Expenses 1. **(10 marks)**

	A	B	C	D	E	F	G
1	**KIRUI'S MILLING COMPANY LIMITED**						
2	**P.O BOX 625 NAKURU**						
3		**First quarter**			**Second quarter**		
4		**January**	**February**	**March**	**April**	**May**	**June**
5	Production cost	15642	14687	18741	19457	15412	15441
6	Transportation	1564	1469	1874	1946	1541	1544
7	Warehousing	1125	1056	1347	1398	1107	1109
8	Promotion	2564	2407	3071	3188	2525	2530
9	Salary	4525	4248	5420	5626	4456	4465

b)i)Copy the details of Kirui's milling company limited to sheet 2 of your worksheet. **(2 marks)**

ii)Add a column called "Total" and calculate the Total production cost of the two Quarters. **(4 marks)**

iii) Use relative referencing to calculate the total for the other expenses. **(4 marks)**

c) i) Calculate the total expenses for each month so as to give the results as "Total expenses" on row 10. **(4 marks)**

ii) On the paper provided, write the formula used to calculate the expenses for the month of April. **(2 marks)**

d) i) Use absolute referencing to calculate the cumulative total expenses for the two quarters in cell H10. **(4 marks)**

ii) Write the formula used to get the cumulative total on the paper provided. **(2 marks)**

iii) Calculate the percentage of total expenses of the respective months and display the results on row 11 as "percentage of total expenses". **(4 marks)**

iv) Write the formulae used to get the percentage of May. **(2 marks)**

v) Draw a line graph to illustrate the percentage of the total expenses for the six months indicating the months. Save your work as Expenses 2. **(10 marks)**

vi) Print Expenses 1 and Expenses 2. **(2 marks)**

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

2. a) A hospital uses a database to maintain data about its employees.

Create a database file named **EMPLOYEE**. **(1 mark)**

b) Create a table called **EMPLOYEE 1** with the following fields and hence enter data into it as shown in fig 1 below. NB: Choose an appropriate primary key. **(14 marks)**

- EMP NO
- NAME
- DATE OF BIRTH
- DEPARTMENT
- BASIC PAY

Fig 1

Emp	Name	Date of birth	Department	Gross pay
01	John Kirui	16/2/1972	Computer	28000
02	Margaret Wairimu	2/2/1960	Medical	30000
03	Jane Cherono	2/5/1970	Management	15000
04	Victor Oduor	8/12/1981	Accounts	25000
05	Harry Wanyama	23/6/1983	Medical	30000
06	Jacob Kiprono	19/4/1973	Management	45000
07	Ali Mohammed	1/1/1969	Medical	30000
08	Daniel Omondi	3/5/1983	Accounts	25000
09	Everlyne Kitune	11/3/1971	Medical	20000
10	Nancy Kerubo	22/9/1980	Medical	20000

c) i) Insert **two** new fields to hold the employee's profession and deductions. **(4 marks)**

ii) Data for included fields is as follows;

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

Profession

Mohammed, Wanyama and Wairimu are Doctors. Oduor and Omondi are accountants.

Kiprono is an Administrator, Kirui is a systems analyst and Cherono is a secretary.

Deductions

Emp no	Amount
07, 05, 02	8,000
04, 08	7,500
06	10,000
01	12,000
03	3,500
09, 10	4,000

Enter the above data into the respective fields. **(6 marks)**

ii) Sort the records in ascending order based on the name field and save as EMPLOYEE 2. **(3 marks)**

d) i) From EMPLOYEE 2, extract a list of employees who were born between 1960 and 1972 both years inclusive and are accountants, nurses or doctors. Write down on paper provided the query expression you used to extract the data. Save the extracted list as LIST1. **(8 marks)**

ii) Remove the date and occupation criteria on LIST 1. Add a calculated field to calculate the Net pay of all employees as Gross Pay - Deductions. Save as LIST 2. **(5 marks)**

e) Generate a columnar report based on LIST 2 with the following fields; Emp no, Name, Department and Net Pay. Sum up the Net Pay for all employees in the report. Save your report as REPORT. **(6 marks)**

f) Print **EMPLOYEE1, EMPLOYEE2, LIST1, LIST 2** and **REPORT**. **(3 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

313/1

C.R.E

PAPER 1

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

1.Write your name, school and index number in the spaces provided above.

2.Write the date of examination and sign in the spaces provided above.

3.This paper consists of **six** questions.

4.Answer any **five** questions in the answer booklet provided.

5.This paper consists of **2** printed pages.

6.Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

Question	**1**	**2**	**3**	**4**	**5**	**6**	**Candidates total score**
Candidates Score							

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

1. a) Give reasons why the Bible is referred to as a library. **(5 marks)**

   b) Outline **five** effects of translation of the Bible into local languages. **(10 marks)**

   c) State **five** ways through which the church is spreading the word of God in Kenya. **(5 marks)**

2. a) State the characteristics of the covenant between God and Abraham. **(5 marks)**

   b) Explain the importance of God's covenant with Abraham. **(10 marks)**

   c) What lessons do Christians learn from the incident when Abraham was willing to sacrifice his son Isaac? **(5 marks)**

3. a) Describe the contest between prophet Elijah and the prophets of Baal at Mount Carmel (1^{st} kings 18:17 – 40). **(7 marks)**

   b) Give **four** conditions that made it difficult for Prophet Elijah to stop idolatry in Israel. **(8 marks)**

   c) Identify **five** qualities of Prophet Elijah that a Christian leader should possess. **(5 marks)**

4. a) Give **four** similarities between prophets in the Old Testament and Traditional African Communities. **(8 marks)**

   b) State **four** ways in which the rich oppressed the poor during the time of Prophet Amos. **(8 marks)**

   c) State the relevance of Prophet Amos' teaching on election of Israel to Christians in Kenya today. **(4 marks)**

5. a) Outline the stages followed in the renewal of the covenant during the time of Nehemiah. **(8 marks)**

   b) Give **six** reasons why Nehemiah carried out the renewal of the covenant in Judah. **(6 marks)**

   c) What lessons do Christians learn from renewal of the covenant by Nehemiah? **(6 marks)**

6. a)Describe the Traditional African views of a community. **(8 marks)**

   b) Explain **six** factors that have affected the Traditional African people's dependence on God. **(6 marks)**

   c) Outline **six** similarities between Christian and traditional African ways of showing respect to God. **(6 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

313/2

C.R.E

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

1.Write your name, school and index number in the spaces provided above.

2.Write the date of examination and sign in the spaces provided above.

3.This paper consists of **six** questions.

4.Answer any **five** questions in the answer booklet provided.

5.This paper consists of **2** printed pages.

6.Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

Question	**1**	**2**	**3**	**4**	**5**	**6**	**Candidates total score**
Candidates Score							

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

1. a) Basing your answer on the infancy narratives in Luke 1:5 – 56, describe what took place when Mary visited Elizabeth. **(6 marks)**

   b) Identify **six** lessons that Christians learn from the lives of Zachariah and Elizabeth. **(6 marks)**

   c) State **eight** ways through which Christians in Kenya express their joy for the birth of Jesus.**(8 marks)**

2.a) Explain the reasons why Jesus used parables in His teachings. **(8 marks)**

   b)Why were people amazed or astonished at the way Jesus taught? **(6 marks)**

   c)What lessons can Christians learn from the parable of the Mustard Seed? **(6 marks)**

3. a) With reference to the sermon on the plain, state **five** teachings of Jesus on how human beings should relate to one another. **(5 marks)**

   b) Describe the incident in which Jesus calmed the storm in Luke 8:22 – 25. (10 marks)

   c) Identify **five** virtues that Christians learn from the miracle of the feeding of the five thousand. **(5 marks)**

4. a) Identify **five** fruits of the Holy Spirit taught by Saint Paul in Galatians 5:22 – 23. **(5 marks)**

   b) Explain the teachings of Jesus about the Vine and the Branches in John 15:1 – 10 reveal about the unity of believers. **(8 marks)**

   c) Give **seven** ways in which Christians prevent division in the church today. **(7 marks)**

5. a) Outline **eight** Christian teachings on work. **(8 marks)**

   b) State the role and professional ethics in a work place. **(6 marks)**

   c) Identify **six** ways which the church is helping to reduce the rate of unemployment in Kenya today. **(6 marks)**

6. a) Give **six** reasons why it is important to have laws in a country. **(6 marks)**

   b) Outline **eight** problems related to maintenance of law and order. **(8 marks)**

   c) Identify ways in which Kenya help those who have been released from prison. **(6 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1

EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

101/1
ENGLISH
(FUNCTIONAL WRITING)
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your name, index number, signature and date in the spaces provided above.
- Answer **ALL** the questions in this paper.
- All answers must be written in the spaces provided in this question paper.
- This paper consists of **7** printed pages.
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

FOR OFFICIAL USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S 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

1.FUNCTIONAL WRITING **(20 marks)**

Imagine that you are the secretary of the Drama club in your school. The club is organizing an Annual Drama club party. The chairperson of the club in the previous year was a candidate and performed exemplary well in the KCSE and was admitted in one of the public universities in Kenya.

a) Design an invitation card to be sent to her. (12 marks)

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

b) Write a congratulatory note to her to be presented that day. (8 marks)

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

2. CLOZE TEST **(10 marks)**

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

Many of our villages are greatly (1) _____ by the rising rate of insecurity. Barely does a day (2) _____ before one hears of burglary here or a car-jacking there. Majority of the (3) _____ are innocent citizens (4) _____ have, toiled for years to acquire the property they have. What is particularly (5) _____ is that despite the efforts of the authorities (6) _____ still needs to be done. Although the police (7) _____ has come up with the idea of community policing, a lot still remains to be done. Sometimes it's (8) _____ for people to reveal the identity of the culprits even if they are members of their families. (9) _____, this is the only way we can root out the bad elements from our communities. (10) _____ **t**his doesn't happen, we will always cry over spilt milk.

3.ORAL SKILLS **(30 marks)**

I. Read the poem below and answer the questions that follow.

Keep it Dark

Keep it dark!

Don't tell your wife

For your wife is a log

Who will burst into flame!

Keep it dark!

Keep it dark!
Don't tell your wife
For your wife is a pot
That is blown by the breeze
And then bang!
It's all out and about

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

Questions

a) Identify **two** aspects that make the poem to be categorized as oral. **(2 marks)**

……

……

……

……

b) Which aspect of style enhances the message? **(1 mark)**

……

……

c) How would you make the recitation of this poem lively? **(2 marks)**

……

……

……

d) How would you recite the second line of the first stanza? **(1 mark)**

……

……

……

e) Which words would you stress in the third line of the first stanza? Explain. **(1 mark)**

……

……

……

II. Identify the word with a different sound. **(4 marks)**

a) Excited Packet Laughed

b) Leisure Measure Pressure

c) Echoes Arch Monarchy

d) Leaf Dough Rough

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

III. Read the items below and answer the questions that follow.

a) Hurry hurry has no blessings.

b) He who laughs last laughs the loudest.

Questions

a) Name the category to which the items belong. **(1 mark)**

……

……

b) Identify and illustrate **two** aspects of sound used in each of the items above. **(4 marks)**

……

……

……

……

……

……

c) Give **two** characteristics of the above genre. (2 marks)

……

……

……

……

IV. Provide the homophones of these words. (2 marks)

i) Bow_____

ii) Fir_____

iii) Tale_____

iv) Eight _____

V. You intend to take part in a debate. What should you observe before and during the debate? (4 marks)

……

……

……

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

……
……
……
……
……

VI. Read this interview and fill the missing parts. **(6 marks)**

Interviewer: _____

_____ **(1 mark)**

Interviewee: I am fine, thank you.

Interviewer: Welcome and be seated.

Interviewee: _____

_____ **(1 mark)**

Interviewer: _____

_____ **(1 mark)**

Interviewee: I only know Mr. Tembo, who was once our principal. It is a surprise to find him in this panel.

Interviewer: _____

_____ **(1 mark)**

Interviewee: I believe I will be a big asset to your company. I have done sales and marketing and it is my intention to promote the products of this company.

Interviewer: _____

_____ **(1 mark)**

Interviewee: I have a lot of experience in this field since I worked in the same capacity just before I went to the university for my post graduate studies.

Interviewer: Alright we will get in touch with you as soon as possible.

Interviewee: _____

_____ **(1 mark)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

102/2

ENGLISH

PAPER 2

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

INSTRUCTIONS

- **Answer ALL the questions in the spaces provided.**
- **All answers must be written in English**
- **This paper consists of 9 printed pages**

For examiners use only

Question	Maximum Score	Score
THE UNSEEN PASSAGE 1	20	
THE SEEN PASSAGE 2	25	
POETRY 3	20	
GRAMMAR 4	15	
	Total score	

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

Question 1. COMPREHENSION (20MARKS)

Read the passage below and answer the questions that follow.

America has a long tradition of creativity. The expression Yankee **ingenuity** is an acknowledgement of this trait present Americans with a novel problem, especially technological and they are likely to come up with the solution sooner rather than later.

That is the positive side. The downside is that in policy matters, Americans sometimes come up with the solutions and then look for personal problems on which to test them. Washington D.C, perhaps more than any other city in the world, has many solutions seeking problems to lock onto.

If the solutions are successful, domestically or internationally, you can expect any amount of excitement and chest thumping, which is another **hallmark** of the American character. Modesty is frowned upon as something for sissies or failures. Countries and peoples are ready paradigm of winners and losers. Woe unto you if you are a 'loser'. You will endure all manner of taunts and putdowns.

To escape this fate, most Americans-including those who are demonstrably poor, call themselves middle class, which probably they are when compared to the poor in other places. But poverty is relative to immediate environment not to some distant places.

One of the more recent American inventions is spinning not as in making clothes (the American textile industry has long being outsourced, notably from China another low wage country),but rather as in using words and other symbols amplified by the media to paint a picture of anything and everything in alight favorable to the presenter's side.

This past week, the world witnessed, yet again, this peculiar American habit of hype and more hype, in this instance, designed to drive the point home that America's declared policy to force-feed democracy to recalcitrant societies has just scored a **humongous** victory. Following the Iraqi elections the turn out in particular, has been hailed as a stunning victory of American policy. Pitted against Iraqi Jihadists who are waging a relentless and ruthless insurgency, a scintilla of validation of America's Iraqi policy was all that was necessary to set off celebratory fireworks.

To those who recount narratives (the spinners), whose job it is to put a bright glass on things a clear picture of winners and losers are the Neanderthals; "thugs and assassins" in the words of the newly sworn in secretary of state Condeleeza Rice-the insurgents who threatened to wreak havoc on election day in Iraq but were thwarted.

The high turnout was read as a violation of many things that were most likely absent from the minds of those Iraqi voters who cast their ballots. Before it was even known whom they had voted for and why, the whole enterprise was turned into cause for chest thumping by some American politicians, prompting John Kerry the loser in the November presidential race, to warn against hyping the Iraqi election.

Who will listen to a loser? This is America! By the time Kerry spoke, the spinning was in full gear. It was another turning point, declared elated talking heads. Never mind that there have been numerous "turning pints" in Iraq's tortured post-invasion experience. The winners were emerging.

A few voices have urged caution but they are drowned out by the self-congratulation that has **engulfed** just about every major media outlet here.

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

It is reminiscent of the chatter that followed Saddam Hussein's capture. That was another turning point. The irony is that America has been through this before, in a different place, with almost the exact same headlines. In the late 1967, many American newspapers published flowery and upbeat stories on the elections held in South Vietnam at the height of the war. The turnout was nearly 83% despite Vietcong terror. The election was declared a success and a turning point that would lead to stabilization of the country and eventual defeat of the insurgents. Of course, nothing of the sort happened.

History does not **invariably** repeat itself. Sometimes it does. Whatever one might think of it, history does always serve up many lessons. One of them is that a dose of modesty is always in order when confronted with vast historical forces or when seeking to rearrange complex societies their go hundreds, if not thousands, of years back.

What may look like victory as first sight may turn out to be another opening to a complex and trying situation that control produce winners or losers. It looks like this what is emerging in Iraq. The millions who headed to the polls on the instructions of their electrical leaders (remember Grand Ayatollah Sistani declared it a religious duty to vote? May or may not have had a clear idea of what society were hoping to create. Their leaders probably do.

Iraqis voted and they are justifiably proud of it. However, this should not be made to look like a first in the Islamic world, as it is being painted in the media. Not too long ago, an Islamic party had won a clear and convincing victory in a free and fair election in Algeria. It was never allowed to assume power. The international authorities desisted from calling the denial an affront to democratic practice. The man who cancelled the Algerian election results is feted in the very same quarter that now preach democracy.

Society's broken tyranny, war, fragmentation and other ills are not served by putdowns of important segments within them.

The approach may produce winners in the short term but for more losers in the end. Moreover, here we are talking of those who could lose everything, including their lives, on a mass scale. A little modesty may just be what is needed to get people across the divide talking. After all, in the end, we are all losers.

Questions

a) What is the negative side of America's long tradition of creativity? **(2marks)**

……

……

……

……

b) "Woe unto you if you are a loser." What does the author mean by this statement? **(2marks)**

……

……

……

……

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

c) Identify and explain an instance of irony in this passage. **(3mks)**

.....

.....

.....

.....

.....

d) What is the author's attitude towards the Americans? Give reasons for your answer. **(2marks)**

.....

.....

.....

.....

.....

e) '...and the losers are Neanderthals; ...' explain how the Neanderthals became losers according to this passage. **(2marks)**

.....

.....

.....

.....

f) What according to the passage is referred to as spinning? **(2marks)**

.....

.....

.....

.....

g) Identify one American policy discussed in this passage. **(2marks)**

.....

.....

.....

.....

h) Explain the meaning of the following words as used in the passage. **(5marks)**

i) Ingenuity

.....

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

……

ii)Hallmark

……

……

iii)Engulfed

……

……

iv)Humongous

……

……

V) Invariably

……

……

Question 2. EXCERPT(25 MARKS)

Yes, that was how Oloisudori defined success, Ole Kaelo thought bitterly. And he and many others desired to define it in the same way. The archaic adage that exhorted young and upcoming businessmen to take care of cents and let the shillings take care of themselves was regarded by the likes of Oloisudori to be untenable. Instant riches, just as an instant tea or instant coffee were the in thing. And the instantaneous bliss brought in an on the sport feeling of well-being, felicity and happiness. That was what he himself had always wanted. And that was the reason, like a stinking rotten carcass would draw a torrent of flies to itself, people like him and many others got drawn to the murky business of Oloisudori.

"But now the chicken had come home to roost," Ole Kaelo lamented ruefully. Oloisudori was now demanding his pound of flesh. He recalled the events of that afternoon when Oloisudori came calling. Seeing him unexpectedly, had signaled trouble with his contracts. But Oloisudori had allayed his fears, saying all was well in that direction. That had restored his peace and calmed his frayed nerves. The success of the shop depended entirely on those contracts. It was, therefore, gratifying to hear him confirm that all was well. What did he want then? He had wondered. But he did not have to wonder for long for Oloisudori did not believe in niceties. He had lifted his head, and letting a small silence draw out between them, he told him, "There is a small matter that I would like to discuss."

Questions

1. Place the above excerpt in its immediate context **(4mks)**

……

……

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

……

……

……

……

2. What relationship does Oloisudori have with Ole Kaelo? **(2mks)**

……

……

……

……

3. What is the small matter that Oloisudori wishes to discuss? **(2mks)**

……

……

……

……

4. Basing your answer on other parts of the text, explain how the above relationship affects the following members of the family

a) Ole Kaelo **(1mk)**

……

……

b) Mama Milanoi **(1mk)**

……

……

c) Taiyo **(1mk)**

……

……

d) Resian **(1mk)**

……

……

5. Discuss the character traits of the following as seen in the excerpt (6mks)

Ale Kaelo

……

……

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

……

……

……

Oloisudori

……

……

……

……

……

6. Explain the main issue implied in the excerpt **(3mks)**

……

……

……

……

……

7. Give the meaning of the following words as used in the excerpt **(3mks)**

a) Untenable

……

……

b) Archaic

……

……

c) Murky

……

……

8. Rewrite the following sentences beginning with So…

It was therefore gratifying to hear him confirm all was well

……

……

……

……

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

Question 3. POETRY(20 MARKS)

WEDDING EVE

Should I

Or should I not

Take the oath to love

Forever

This person I know little about?

Does she love me

Or my car

Or my future

Which I know little about?

Will she continue to love me

When the future she saw in me

Crumbles and fades into nothing

Leaving the naked me

To love without hope?

Will that smile she wears

Last through the hazards to come

When fate strikes

Across the dreams of tomorrow?

Or will she

Like the clever passenger in a faulty plane

Wear her life jacket

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

And jump out to save her life

Leaving me to crash into the unknown

What magic can I use

To see what lies beneath

Her angel face and well-knit hair

To see her hopes and dreams Before I take the oath To love forever?

We are both wise chess players

She makes a move

I make a move

And we trap watch other in our secret dreams

Hoping to win against each other

Questions

1. Briefly explain what the poem is about **(3mks)**

.....

.....

.....

.....

.....

2. Identify and describe the persona in the poem **(2mks)**

.....

.....

.....

.....

.....

3. Highlight three features of style used in the poem and show their effectiveness **(6mks)**

.....

.....

.....

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

……

……

……

……

……

……

……

4. Describe the attitude of the persona towards the 'she' in the poem (3mks)

……

……

……

……

……

5. Comment on the tone of the persona (2mks)

……

……

……

……

……

6. We are both wise chess player. Add a question tag (1mk)

……

……

……

7. Explain the meaning of the following lines as used in the poem (3mks)

a) Will that smile she wears last through the hazards to come

……

……

……

b) Leaving the naked me

……

……

……

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

c) … the clever passenger in a faulty plane…

……

……

……

4. GRAMMAR

a) Rewrite the following sentences as instructed: **(4marks)**

i.He ran away. He shouted as he ran. (*Rewrite to end* ……. shouting)

……

……

ii. Wanga wrote an article. He posted it on the website. (*Join the sentence to begin:* Having….)

……

……

iii.Those men have messed up our lives. *(Change into passive)*

……

……

iv. She asked me who I was. *(Change into direct speech).*

……

……

b) Use the correct form of the word given in brackets. (3 marks)

I. The doctor's evidence was**…… (**admit) in court because it was not foolproof.

II. Their play was considered **……**(decent) and was discontinued

III. The contribution**……**(able) the couple to pay hospital bills

c) Rewrite the following sentences to remove gender bias. ***(3marks)***

(i) A professor should give his students opportunities to develop their skills.

……

……

(ii) My sister was appointed chairman of the water project committee.

……

……

(iii)The firemen took a long time to arrive at the scene of the accident.

……

……

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

d) Use phrasal verbs formed from the words in brackets to fill the blank spaces(3marks)

(i) I am sorry you were not satisfied by our services, I will ……. your complaint at once. (Look)

(ii) I……Michael when I was in town this morning (run)

(iii)The last thing I would like to do is to ……..with my parents (fall)

e) Give the two meanings of the following sentence (2marks)

Mr. Gitau came to see you when you were out

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

101/3
ENGLISH
Paper 3
(*Creative Composition and Essays Based on Set Texts*)
Time: 2½ Hours

Instructions to students

- *Write your **name, admission number** and **class** in the spaces provided.*
- *Sign and write the date of the examination in the spaces provided.*
- *Answer **all** questions in the spaces provided. Use **blue** ink only.*
- *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 ascertain that **all** the pages are printed as indicated and that **no questions are missing***
- *Candidates must answer all questions **in English***

Question	Maximum Score	Student's Score	Examiner's Initials
1	20		
2	20		
3	20		
TOTAL	60		

*Answer **three** questions only*

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 to illustrate the proverb, "*All is well that ends well*."

Or

b) Write a composition describing a prize-giving day that was recently held in your school.

2.Compulsory Set Text **(20 marks)**

Henrik Ibsen, *A Doll`s House*.

"Too much preoccupation with one's own interest can easily lead to self-destruction." Write an essay to validate this statement using illustrations from Henrik Ibsen's *A Doll's House*.

3.Optional set text **(20 marks)**

a) The Short story:

Chris Wanjala (ed.), *Memories We Lost and Other Stories*

Even in the midst of gloom and despair, one can find inspiration that keeps them going. Using illustrations from Siddhartha Gigoo's 'The Umbrella Man', write an essay to justify this assertion.

b) The Novel

John Steinbeck, *The Pearl*

Good fortune does not necessarily guarantee happiness. Validate the truthfulness of this statement drawing illustrations from *The Pearl*.

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

312/1

GEOGRAPHY

PAPER 1

TIME: 2 HOURS 45 MINUTES

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**.
- All answers **must** be written in the answer booklet provided.
- This paper consists of **4** printed pages.
- Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

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

SECTION A (25 MARKS)

*Answer **ALL** the questions in this section*

1.a) State briefly **three** ways how air pressure influences the weather of a place. **(3 marks)**

b) Identify **two** Global winds that influence the climate of Kenya. **(2 marks)**

2.a) Give **two** examples of chemically formed sedimentary rocks. **(2 marks)**

b) State **three** conditions necessary for the growth of coral. **(3 marks)**

3.a) Name the **two** theories that explain the origin of the earth. **(2 marks)**

b) Give **three** proofs that the earth is oblate spheroid. (3 marks)

4.a) Name the categories of lakes formed by earth movement. **(2 marks)**

b) Give **two** examples from East Africa of each category named in (a). **(2 marks)**

5.a) Define of hydrological cycle. **(2 marks)**

b) State **four** factors that determine the amount of water that sinks into the ground or flows on the surface. **(4 marks)**

SECTION B (75 MARKS)

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

6. Study the map of **Kitale 1:50,000 (sheet 75/3)** provided and answer the following questions.

a) i) Identify **two** human made features found at the grid square 2320. **(2 marks)**

ii) What is the altitude of the highest point in the area covered by the map? **(2 marks)**

iii) Give **three** types of natural vegetation found in the area East of Easting 40 and North of Northing 27. **(3 marks)**

b) i) What is the bearing of air photo principle point at grid square 2931 from the air photo principle point at grid square 3426. **(2 marks)**

ii) Measure the distance of the dry weather road (C640) from the junction at point M(345142) to the junction at N(416200) give your answer in kilometres. (2 marks)

c) i) Draw a rectangle measuring 3 cm by 4 cm to represent the area in the map extract bounded by Easting's 28 and 31 and Northing's 11 and 15. **(1 mark)**

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

ii) On the rectangle drawn, mark and name the following;

- Loose surface road **(1 mark)**
- Air photo principle point **(1 mark)**
- Swamp **(1 mark)**
- Pond **(1 mark)**

d) i) Identify **four** social services offered in Kitale Municipality. **(4 marks)**

ii) Describe the drainage of the area covered by the map. **(5 marks)**

7. Use the map below to answer questions (a) and (b).



a) Name;

i) The type of climate found in the shaded area marked Q. **(1 mark)**

ii) The ocean current marked R and S. **(2 marks)**

b) Describe the characteristics of the type of climate found in the shaded area marked T. **(8 marks)**

c) Explain how the following factors influence climate.

i) Altitude **(4 marks)**

ii) Distance from the sea **(4 marks)**

d) i) Explain **two** effects of climate change to the physical environment. **(4 marks)**

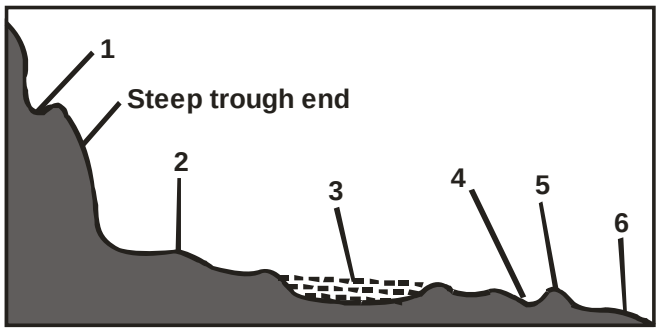
ii) State **two** climatical conditions experienced in the Sahara desert. **(2 marks)**

8. a) i) Identify **two** factors that influence glacial erosion. **(2 marks)**

ii) The diagram below shows the long profile of a glacial trough.

Study it carefully and answer the questions that follow.

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



Name the parts labeled 1 to 6. **(6 marks)**

b) Describe the **four** various ways in which tills are formed at the coast. **(8 marks)**

c) i) What is an erratic? **(2 marks)**

ii) Give **three** examples of areas with erratics. (3 marks)

d) A field study was carried out in an area affected by wind action.

i) List **two** types of interviews the study would have made use of. **(2 marks)**

ii) Give **two** problems the researcher would have experienced. **(2 marks)**

9. a) What is natural vegetation? **(2 marks)**

b) i) Give the types of grassland vegetation found in the following countries. (3 marks)

- New Zealand
- Argentina
- South Africa

ii) State **two** factors why mountain tops have no vegetation. **(2 marks)**

c) i) Explain **four** ways in which coniferous forest is adapted to the climatic conditions. (**8 marks)**

ii) Explain how the following factors influence the distribution of vegetation.

- Altitude **(2 marks)**
- Human beings **(2 marks)**

d) You are planning to carry out a fieldstudy on the forest vegetation near your school.

i) State **four** reasons why it is necessary to have a route map. **(4 marks)**

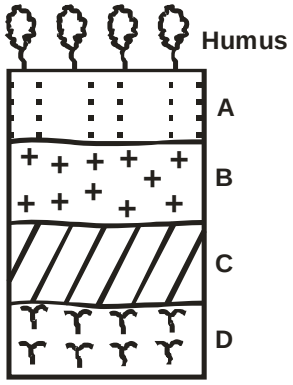
ii) Give **two** reasons why you need a tape measure. **(2 marks)**

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

10. a) i) What is soil? **(2 marks)**

ii) Give **three** components of soils. **(3 marks)**

b) The diagram below shows different layers of soil. Use it to answer questions b) i), ii), iii).



A SOIL PROFILE

i) Name the soil layers marked B, C, and D. **(3 marks)**

ii) Give **two** main processes of soil formation which takes place in horizon A. **(2 marks)**

iii) Name **four** characteristics of soil in horizon B. **(4 marks)**

c) Explain how the following helps in the maintenance of soil fertility and quality.

- Crop rotation **(2 marks)**
- Mixed farming **(2 marks)**
- Bush fallowing **(2 marks)**

d) State **five** significances of soils to human activities. **(5 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

312/2

GEOGRAPHY

PAPER 2

TIME: 2 HOURS 45 MINUTES

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**.
- All answers **must** be written in the answer booklet provided.
- This paper consists of **4** printed pages.
- Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing
- Candidate should answer the questions in English.

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

SECTION A (25 MARKS)

Answer ALL the questions in this section

1.a) Name any **two** underground mining methods. **(2 marks)**

b) State any **three** negative effects of mining on the environment. **(3 marks)**

2. a) List down **three** human factors that favour wildlife conservation. **(3 marks)**

b) State **two** advantages of domestic tourism in Kenya. **(2 marks)**

3.a) What are floods? **(2 marks)**

b) Name **three** rivers in Kenya which cause large scale flooding. **(3 marks)**

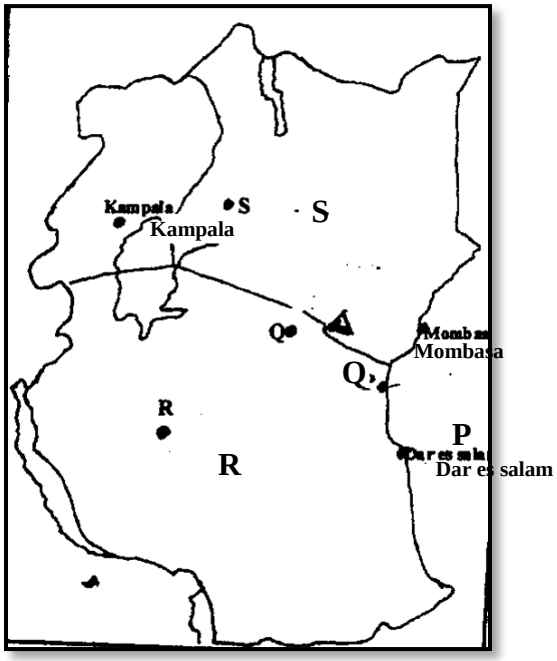
4. a) Define the following terms;

i) Fertility rate **(1 mark)**

ii) Mortality rate **(1 mark)**

b) State **three** types of information that may be derived from an age-sex pyramid. **(3 marks)**

5. Use the map of East Africa below to answer the questions that follow.



a) Name the towns marked P, Q and R. **(3 marks)**

b) State **two** major functions of the town marked S. **(2 marks)**

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

SECTION B (75 MARKS)

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

6. The table below shows the value of export crops from Kenya in the year 1995.

Use it to answer the questions below.

Crop / Year	**1995**
Maize	224,000,000
Coffee	168,000,000
Tea	320,000,000
Horticultural	190,000,000
TOTAL	902,000,000

a) i) Draw a divided rectangle measuring 15cm to represent the above data. **(9 marks)**

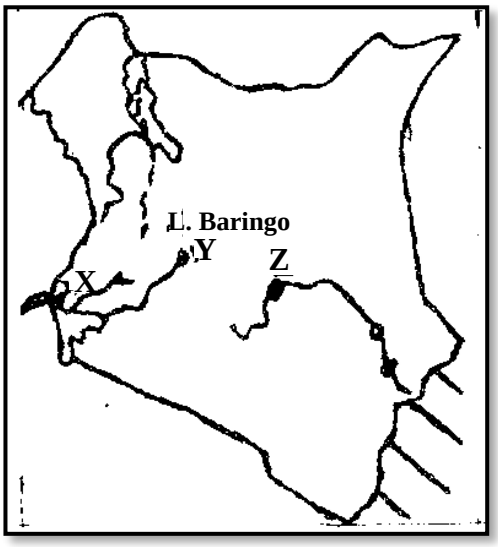
ii) State **three** advantages of using divided rectangles to represent geographical data. **(3 marks)**

b) State **four** physical conditions that favour coffee growing in Kenya highlands. **(4 marks)**

c) Describe the processing of coffee from harvesting to marketing. **(6 marks)**

d) List **three** ways in which planted coffee is taken care by farmers. **(3 marks)**

7. Use the map of Kenya below to answer question 7. a) i), ii) and iii).



a) i) Identify the irrigation schemes marked X, Y and Z and in each case the main crop grown. **(6 marks)**

ii) Explain **four** factors that led to the location of irrigation scheme Y. **(8 marks)**

iii) State **four** problems that are experienced in the irrigation marked Z. **(4 marks)**

b) What is a polder? **(2 marks)**

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

c) Give **five** benefits of the Zuyder Zee project. **(5 marks)**

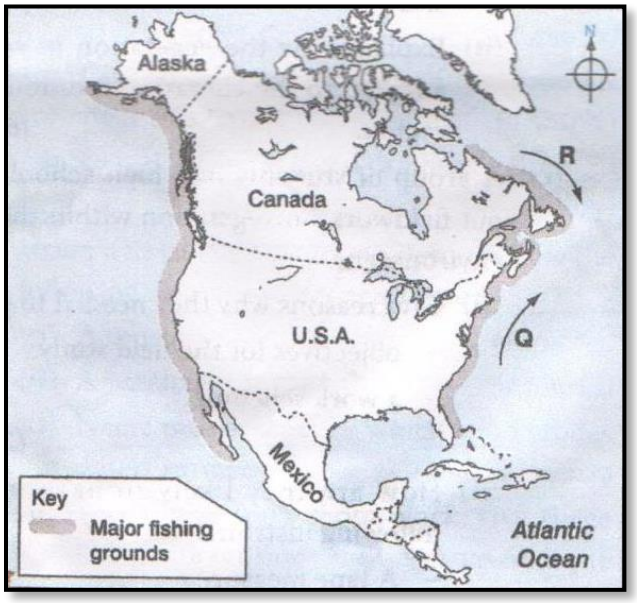
8. a) i) Name **two** types of fishing grounds in Kenya. **(2 marks)**

ii) Give **two** types of fishing methods. **(2 marks)**

iii) Give **four** reasons why marine fishing industry in east Africa is not well developed. **(4 marks)**

b) Explain **four** ways in which marine fisheries are being conserved in Kenya. **(8 marks)**

c) Use the map of North America below to answer questions (i) and (ii).



i) Name **one** method of fishing used in the shaded area. **(1 mark)**

ii) Name ocean currents marked Q and R. **(2 marks)**

d) Explain why major fishing grounds of the world are located in the temperate latitudes of the northern hemisphere. **(6 marks)**

9. a) Distinguish between manufacturing and tertiary industries. **(2 marks)**

b) i) Name **four** agricultural food processing industries in Kenya. **(4 marks)**

ii) Explain **four** factors that influenced the location of the iron and steel industries in the Ruhr region of Germany. **(8 marks)**

c) Give **five** reasons why the government of Kenya encourages the establishment of Jua Kali industries. **(5 marks)**

d) You intend to carry out a field study in a coffee factor near your school.

i) State **three** reasons why you would visit the area of study in advance. **(3 marks)**

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

ii) You have prepared a working schedule for your study.

State **three** items you would include in your schedule. **(3 marks)**

10. a) Draw an outline map of Kenya. **(2 marks)**

b) On the map indicate the following forests. **(3 marks)**

i) Kakamega forest

ii) Mt. Kenya forest

iii) Arabuko sokoke forest

c) i) Name **three** natural causes of forest depletion. **(3 marks)**

ii) Describe **four** problems facing forests in Kenya. **(8 marks)**

d) i) State **three** factors favouring production of soft wood forests in Canada. **(3 marks)**

ii) Explain **three** reasons why the Kenyan government should conserve her forests. **(6 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

311/1

HISTORY & GOVERNMENT

PAPER 1

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

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

b) Answer **ALL** the questions in section **A**, **THREE** questions from section **B** and **TWO** questions from Section **C.**

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

d) This paper consists of **2** printed pages.

e) Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

f) Candidates should answer the questions in English.

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

SECTION A (25 MARKS)

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

1.Identify **one** advantage of using oral traditions as a source of information in History and Government. **(1 mark)**

2. Which Kalenjin speakers remained at Mt. Elgon during their migration and settlement during 19th century? **(2 marks)**

3. Give the **main** reason why the Portuguese conquered East Africa so easily. **(1 mark)**

4. Give **two** political rights of the youth guaranteed in the new constitution of Kenya. **(2 marks)**

5. How does the constitution guarantee national unity? **(2 marks)**

6. State **one** way in which East Africa slave trade undermined local industries. **(1 mark)**

7. What was the **main** reason for calling of the Anglo-Germany treaty of 1890? **(1 mark)**

8. What was the **main** outcome of the Devonshire White Paper of 1923? **(1 mark)**

9. Give **two** reasons for the calling of the Second Lancaster House Conference of 1962. **(2 marks)**

10. State the importance of affiliation of the Kenya Federation of Labour under Tom Mboya to the International Trade Union. **(1 mark)**

11. What was the **main** reason why the British compelled the Africans to pay hut tax? **(1 mark)**

12. Give **two** reasons why the Akamba exhibited mixed reaction to establishment of colonial rule. **(2 marks)**

13. What is contained in a national budget? **(2 marks)**

14. Give **one** house committee of parliament which deals with government financial matters. **(1 mark)**

15. Give **two** occasions when the president attends parliament. **(2 marks)**

16. Identify **two** political events that threatened the stability of Kenya between 1975 and 1978. **(2 marks)**

17. Name the fund into which all government revenue is paid. **(1 mark)**

SECTION B (45 MARKS)

*Answer **any three** questions from this section.*

18. a) Give **three** social reasons for the coming of the Christian missionaries to Kenya. **(3 marks)**

    b) Explain **six** factors that facilitated the spread of Christianity in Kenya. **(12 marks)**

19. a) Highlight **five** reasons leading African communities to collaborate with colonialists**. (5 marks)**

    b) Explain the results of the Maasai collaboration with the British. **(10 marks)**

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

20. a)State **three** political development which hastened the achievement of independence in Kenya between 1945 and 1963. **(3 marks)**

b) Discuss **six** roles of Wangari Maathai in the history of Kenya. **(12 marks)**

21. a) State **five** internal factors that led to the revival of Multi-party politics in Kenya from 1991. **(5 marks)**

b) Explain **five** challenges experienced in implementing multi-party democracy in Kenya. **(10 marks)**

SECTION C (30 MARKS)

*Answer **any two** questions from this section.*

22. a) How does the Kenyan government ensure that rule of law is upheld in the country**?(3 marks)**

b) Explain **six** efforts made by the government of Kenya to promote national unity. **(12 marks)**

23.a) Outline **three** responsibilities of the secretary to the Cabinet. **(3 marks)**

b) Discuss the functions of the Supreme Court. **(12 marks)**

24. a) Identify **five** duties of a returning officer. **(5 marks)**

b) Discuss the electoral process in Kenya. **(10 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

311/2

HISTORY & GOVERNMENT

PAPER 2

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

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

b) Answer **ALL** the questions in section **A**, **THREE** questions from section **B** and **TWO** questions from Section **C.**

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

d) This paper consists of **2** printed pages.

e) Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

f) Candidates should answer the questions in English.

SECTION A (25 MARKS)

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

1. Name **one** distinct stage in which evolution of man took place. **(1 mark)**
2. Mention **one** chemical dating method used by the archeologists. **(1 mark)**
3. Identify **two** hunting methods used by early man. **(2 marks)**
4. State **two** theories that explain the origin and spread of agriculture. **(2 marks)**
5. What was the main reason behind the spread of agriculture in USA? **(1 mark)**
6. Give t**wo** characteristic of currency as a method of trade. **(2 marks)**
7. Apart from Ghana and Mali, name any other empire that developed as a result of Trans-Saharan Trade. **(1 mark)**
8. Define "space age". **(1 mark)**
9. Name the people accredited to the invention of stone tablets as a means of communication. **(1 mark)**
10. Highlight **two** major factors that contributed to the decline of Meroe as an urban centre. **(2 marks)**

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

11. Mention **one** activity that took place during the Odwira festival. **(1 mark)**
12. Name **two** leaders who prepared African forces in majimaji rebellion. **(2 marks)**
13. State **two** types of nationalism expressed in South Africa. **(2 marks)**
14. Identify the rival movement formed in Mozambique to counter FRELIMO in 1965. **(1 mark)**
15. Name **two** weapons that were introduced in a bid to end the stalemate during the First World War. **(2 marks)**
16. Name **two** wars that occurred because of Cold War. **(2 marks)**
17. Identify the organ that keeps annual register of voter in Britain. **(1 mark)**

SECTION B (45 MARKS)

*Answer **any three** questions from this section.*

18. a) State **five** factors that favoured the beginning of early agriculture during the New Stone Age. **(5 marks)**
    b) Explain **five** effects of early agriculture in Egypt. **(10 marks)**

19. a) Identify **three** sub-groups of the Shona. (3 marks)
    b) Discuss the political organization of the Shona. **(12 marks)**

20. a) Identify **three** factors that led to the industrial recovery of West Germany after World War II. **(3 marks)**
    b) Explain **six** challenges facing industrialization in India. **(12 marks)**

21. a) Outline **three** economic factors that led to the scramble and partition of Africa. **(3 marks**
    b) Explain **six** reasons why the Mandika resistance took long to suppress.

SECTION C (30 MARKS)

*Answer **any two** questions from this section*

22. a) Identify **three** main bodies of the League of Nations. **(3 marks)**
    b) Explain **six** problems faced by the League of Nations. **(12 marks)**

23. a) State **five** causes of Second World War. **(5 marks)**
    b) Explain **five** reasons why the Axis were defeated during the Second World War. **(10 marks)**

24. a) State **five** symbolic and ceremonial significance of the British Monarch. **(5 marks)**
    b) Explain **five** ways in which powers of an American president are checked. **(10 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

441/1
HOMESCIENCE
PAPER 1
THEORY
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

- Write your name, school and index number in the spaces provided above.
- Sign and write the date of the examination in the spaces provided above.
- This paper consists of **three** sections **A**, **B** and **C**.
- **All** the questions in Section **A** and **B** are compulsory.
- Answer any other **two** questions in section **C**.
- Answers to all the questions must be written in the spaces provided.
- This paper consists of **8** printed pages.
- Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR OFFICIAL USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 20	40	
B	21	20	
C		20	
		20	
TOTAL SCORE		100	

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

SECTION A (40 MARKS)

Answer ALL the questions from this section in the spaces provided

1. Give **two** reasons for folding clothes when storing. **(2 marks)**

……

……

……

……

2. Give **two** reasons for thawing frozen food completely before cooking. **(2 marks)**

……

……

……

……

3. State **two** points to note on the care of ears when cleaning your face daily. **(2 marks)**

……

……

……

……

4. Give **two** importance of classifying clothes before storage. **(2 marks)**

……

……

……

……

5. Identify **two** ways of preventing insect bites and stings. **(2 marks)**

……

……

……

……

6. Mention **two** disadvantages of cross method of ventilating a room. **(2 marks)**

……

……

……

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

……

……

7. State **two** disadvantages of roasting as a method of cooking food. **(2 marks)**

……

……

……

……

8. Name **two** categories of convenience foods. **(2 marks)**

……

……

……

9. Differentiate between a dart and a pleat in clothing construction. **(2 marks)**

……

……

……

……

10. State **two** ways of saving energy when lighting a home. **(2 marks)**

……

……

……

……

11. Define simmering in cookery. **(1 mark)**

……

……

……

12. List **two** food substances used for coating food during deep frying of foods. **(2 marks)**

……

……

……

……

13. Identify **two** characteristics of fabric which develop static electricity. **(2 marks)**

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

……

……

……

……

14. State **two** advantages of using self-neatening seams in garment construction. **(2 marks)**

……

……

……

……

15. Give **two** causes of drowning in children. **(2 marks)**

……

……

……

……

16. Give **two** reasons why aluminium is widely used in making kitchen equipment. **(2 marks)**

……

……

……

……

17. Give **two** functions of water in the body. **(2 marks)**

……

……

……

18. State **two** properties that make linen suitable for making kitchen tea towels. **(2 marks)**

……

……

……

……

19. Mention **three** qualities of a well-made seam. **(3 marks)**

……

……

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

……

……

……

20. Give **two** reasons why hot water is not suitable for cleaning wooden surfaces. **(2 marks)**

……

……

……

……

……

<u>SECTION B</u> (20 MARKS)

COMPULSORY

21. You are to visit your grandmother over the weekend. Describe how you would;

a) Launder her acrylic sweater. **(10 marks)**

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

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

b) Clean her earthen water pot. **(5 marks)**

……

……

……

……

……

……

……

……

……

c) Clean her gourd for storing porridge. (5 marks)

……

……

……

……

……

……

……

……

……

SECTION C (40 MARKS)

Answer any TWO questions from this section in the spaces provided after question 24

22. a) State **six** signs of pregnancy. **(6 marks)**

b) Identify any **six** problems that may arise during pregnancy which need to be reported to the doctor. **(6 marks)**

c) Mention any **three** points on meeting the following needs of an expectant woman.

i) Physical needs **(3 marks)**

ii) Emotional needs **(3 marks)**

d) Define haemorrhoids and give their cause in pregnancy. **(2 marks)**

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

23. a) Give **five** reasons for caring for the stick at home. **(5 marks)**

b) Mention **five** factors to consider when packing meals. **(5 marks)**

c) State **five** factors to consider when choosing fastenings. **(5 marks)**

d) Discuss **five** ways of conserving nutrients when cooking vegetable. **(5 marks)**

24. a) State **six** desirable qualities of fabric for making curtains. **(6 marks)**

b) Explain **four** uses of openings in garment construction. **(8 marks)**

c) Explain **three** reasons for ironing / pressing garments at every stage of construction.**(6 marks)**

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

441 / 2

HOMESCIENCE

PAPER 2

CLOTHING AND TEXTILES (PRACTICAL)

CONFIDENTIAL

Each candidates is required to have the following

a) Poplin material

b) Sewing thread

c) Embroidery thread

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

441/2

HOME SCIENCE

(CLOTHING CONSTRUCTION)

PAPER 2

PRACTICAL

TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

a) This paper consists of **three** 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 are advised to ensure that the pattern pieces match with sketches shown on question paper.

A pattern of a pair of shorts is provided. You are advised to study the sketches, instructions and the layout carefully before you begin the test.

MATERIALS PROVIDED.

1. Pattern pieces.

A	short front
B	Short back
C	Pocket
D	Waistband
E	Front short facing
F	Back short facing

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

2. Plain light weight cotton fabric 50cm long by 90cm wide.
3. Cotton sewing thread to match the fabrics
4. One large envelope

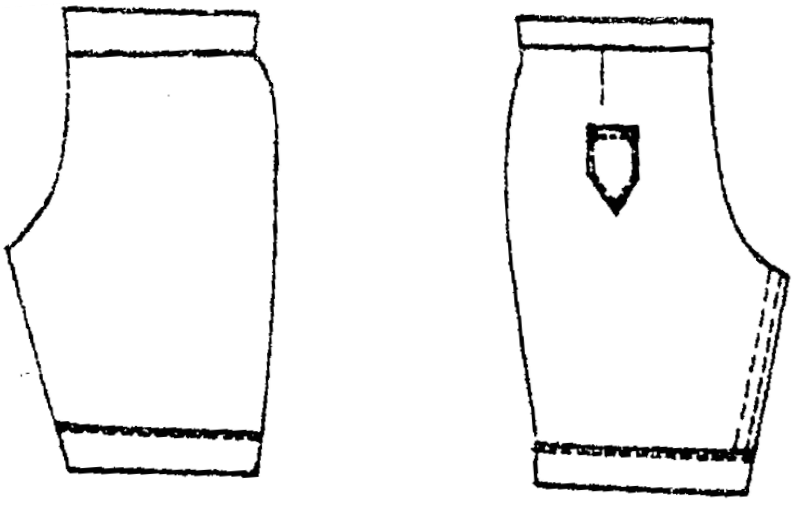
THE TEST

Using the materials provided cut out and make the left leg of the short to show the following processes.

a) Making of the back dart.
b) Preparing and attaching the pocket.
c) Working of the inner leg seam using machine fell seam.
d) Working of the side seam using an open seam.
e) Attaching the facings onto the lower edge of the shorts.
f) Preparing and attaching the waistband.
g) Finishing the waistband using hemming stitches.

At the end of the examination firmly sew on your work on a single fabric a label bearing your name and index number. Remove the needles and pins from your work then fold your work neatly and place it in the envelope provided. Do not put scrapes of fabric in the envelope.

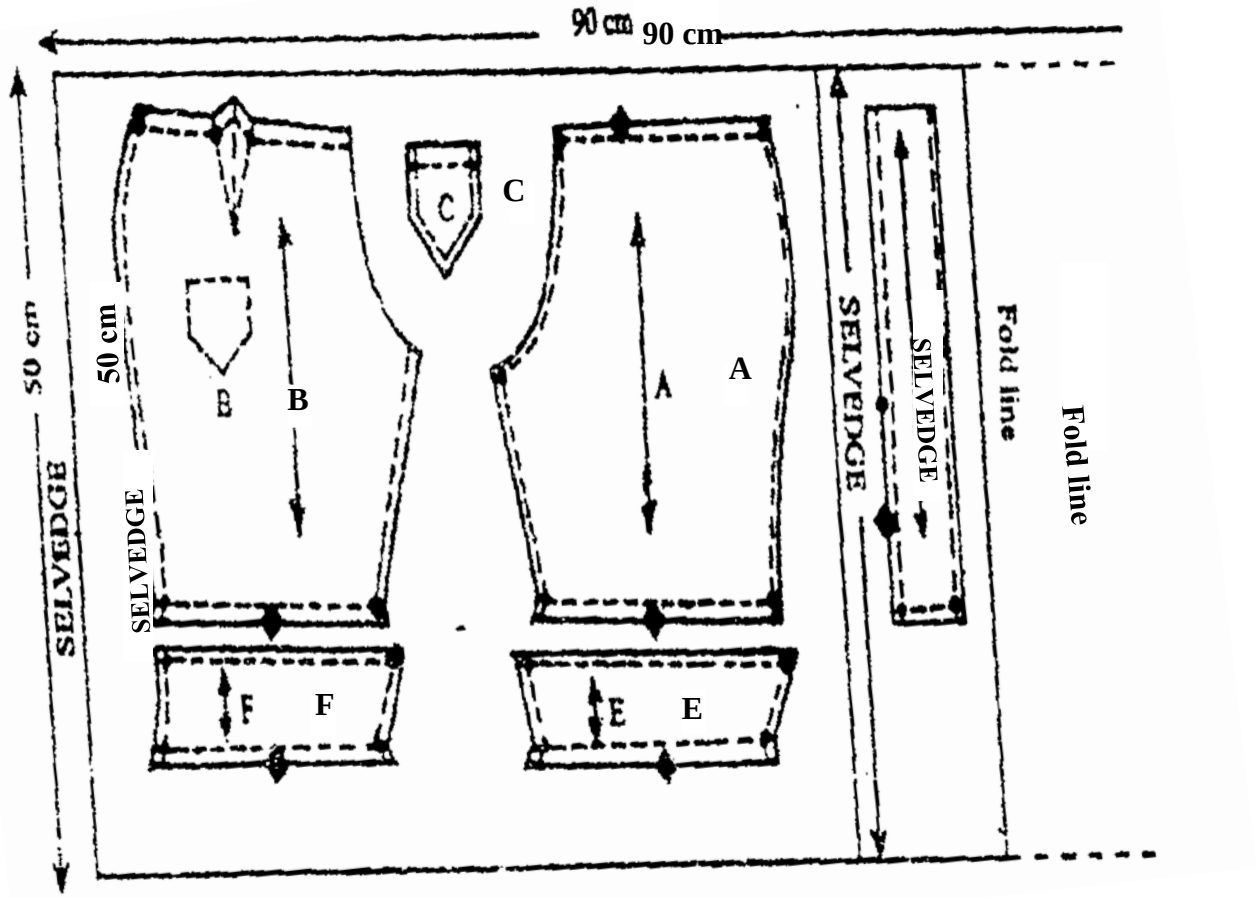
VIEW OF PAIR OF SHORTS



FRONT **BACK**

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

<u>LAYOUT</u> (NOT DRAWN TO SCALE)



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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

441/ 3
HOMESCIENCE
(FOODS AND NUTRITION)
PAPER 3
PRACTICAL
TIME: 1¾ HOURS

INSTRUCTIONS TO CANDIDATES

PLANNING SESSION: 30 MINUTES

PRACTICAL TEST SESSION: 1¼ HRS

1.Read the test carefully

2.Write your name, school, index number, signature and date on every sheet of paper used.

3.You are advised to spend 30 minutes to come up with a plan of work which will be used for the practical.

4.Textbooks and recipes may be used during the planning session as reference materials.

5.You will be expected to keep to your order of work during the practical session.

6.You are only **allowed** to take away your reference materials at the end of the planning session.

7.You are **not** allowed to bring **additional notes** to the practical session.

8.This paper consists of **2** printed pages.

9.Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

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

THE TEST

Your two cousins spent the night at your house. Using all the ingredients listed below prepare, cook and present two suitable items for breakfast for the three of you. Include a beverage.

INGREDIENTS

- Oil
- Salt
- Eggs
- Sugar
- Tea leaves
- Self-raising wheat flour / plain wheat flour
- Milk
- Sweet potatoes / Arrow roots

PLANNING SESSION: 30 MINUTES

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 the recipes
2. Write your order of work.
3. Make list of the foodstuff and equipment you will require.

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

JINA: …….

SHULE: ……...……

NAMBRI YA USAJILI: …….. SAHIHI: ……. TAREHE: ……

102/1 INSHA

KISWAHILI KARATASI YA 1

MUDA: SAA 1¾

MAAGIZO KWA WATAHINIWA

a) Andika insha **mbili.**

b) Insha ya **kwanza** ni ya **lazima.**

c) Chagua insha nyingine moja kutoka kwa hizo tatu zilizobakia.

d) Lugha ya Kiswahili sanifu itumike kujibia maswali

e) Kila insha isipungue maneno 400.

f) Kila insha ina alama 20.

g) Unadhifu wa hati unachangia kueleweka rahisi.

h) Karatasi hii ina kurasa **mbili.**

i) Watahiniwa ni lazima waangalie kama kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.

1. Insha ya lazima

Wewe ni mkuu wa Polisi Idara ya Trafiki Wilaya ya Muembe Mmoja. Kutokana na visa vingi vya ajali barabarani, waandikie ilani madereva na wananchi katika Wilaya yako kuhusu kutozingatia sheria za trafiki. Ilani hii itokee katika gazeti la 'Sauti'.

2. Vijana wengi nchini hawana ajira. Jadili mbinu mbalimbali za kubuni nafasi za kazi nchini Kenya kwa vijana.

3. Mchuma janga hula na wakwao. Andika kisa kudhibitisha methali hii.

4. Andika Insha inayoanza kwa maneno yafuatayo:

Nilipowakumbuka wenzangu, macho yaliingia kiwi, machozi yakanilengalenga…

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

JINA: ……

SHULE: ……..……

NAMBRI YA USAJILI: …….. SAHIHI: ……. TAREHE: ……

102/2
KISWAHILI
KARATASI YA PILI
LUGHA
MUDA: SAA 2½

MAAGIZO KWA WATAHINIWA

1.Andika jina lako, shule na nambari yako katika nafasi ulizoachiwa hapo juu.
2.Andika tarehe ya mtihani na utie sahihi yako katika nafasi ulizoachiwa hapo juu.
3.Jibu maswali yote.
4.Andika majibu yako katika nafasi ulizoachiwa baada ya kila swali katika kijitabu hiki cha maswali.
5.Usitoe ukurasa wowote kutoka kwenye kijitabu hiki.
6.Karatasi hii ina kurasa **kumi**.
7.Watahiniwa ni lazima waangalie kama kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

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

1.**<u>UFAHAMU</u> (ALAMA 15)**

Soma kifungu kifuatacho kisha ujibu maswali uliyopewa

Kila mmoja wetu anafahamu jukumu muhimu linalotekelezwa na mashirika yasiyo ya kiserikali almaarufu kama NGOs katika shughuli ya kuleta maendeleo muhimu humu nchini.

Ni dhahiri kuwa maendeleo mengi ambayo tunajivunia kama jamii - hasa katika sehemu za mashinani - yametekelezwa na mashirika haya ambayo hufadhiliwa na serikali na mashirika ya kigeni. Sio tu miradi ya kupambana na ugonjwa hatari wa Ukimwi, maji ya kunywa, kilimo, ufadhili wa kimasomo n.k, bali hata inayohusu uhifadhi wa mazingira.

Hata hivyo, uchunguzi unaonyesha kuwa ingawa mashirika haya yanajivunia kutekeleza mengi, maendeleo ni machache mno ikilinganishwa na kiasi cha pesa ambacho kimetolewa na wafadhili. Madai yaliyotolewa na wanaharakati wa kutetea haki za kibinadamu nchini majuma kadhaa yaliyopita kuwa **walaghai** wa kitaalamu wameingia sekta hii **kuwapora** wafadhili pesa zao yana ukweli fulani.

Kuna mbinu kadhaa ambazo zinatumiwa na mashirika laghai kuwapora wafadhili pesa zao. Mbinu ya kwanza ni kupitia uandishi wa mapendekezo ya miradi isiyokuwepo. Mengi ya mapendekezo hayo huandikwa kwa lugha ya mvuto kuwashawishi wafadhili watoe fedha zao. Kuna uwezekano umewahi kukutana na wasomi waliobobea katika taaluma ya kuandika mapendekezo ya miradi kwa malipo. Hao ndio wajuao mambo ya kujumuishwa kwenye mapendekezo ya miradi ili kuwateka wafadhili. Kile wafanyacho ni kuandika mapendekezo na baadaye hupewa sehemu yao ya pesa hizo punde zinapotolewa.

Njia ya pili sio wizi wa wazi kwani huhusisha matumizi ya pesa kwa njia ambazo hazikukusudiwa. Badala ya kutumia pesa za wafadhili kutekeleza miradi ya maendeleo iliyopendekezwa, baadhi ya wasimamizi wa mashirika haya huweka pesa mifukoni mwao.

Viongozi wa mashirika mengine hutumia ufadhili huo kuzuru mataifa ya kigeni kwa kisingizio cha kuhudhuria makongamano ya maendeleo. Baadhi yao huwa hawaendi mbali; wao huandaa makongamano ya kukata na shoka kila mwezi katika hoteli kubwa kubwa nchini. Kinaya kilioje kuwa pesa zilizotafutwa kusaidia wajane katika vijiji vya mashambani zinatekeleza miradi bandia mijini? Inasemekana miradi ya baadhi ya mashirika hutekelezwa kimaandishi tu na maafisa wanaosimamia mashirika haya bila kuwahusisha waliolengwa.

Isitoshe, baadhi ya mashirika haya hutumia nyingi ya pesa zake kwa masulala ya utawala na usimamizi badala ya miradi ya maendeleo

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

Maswali

a) Taja jukumu muhimu linalotekelezwa na mashirika yasiyo ya kiserikali. (alama 2)

……

……

……

……

b) Ni miradi ipi ambayo imetekelezwa na mashirika haya? (alama 5)

……

……

……

……

……

……

……

c) Ni kwa nini maendeleo ambayo yametekelezwa na mashirika haya ni machache? (alama 2)

……

……

……

……

d) Ni mbinu zipi zinazotumiwa na mashirika laghai kuwapora wafadhili pesa zao? (alama 4)

……

……

……

……

……

……

e) Eleza maana ya maneno yafuatayo kama yalivyotumika kifunguni. (alama 2)

i) walaghai

……

……

……

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

ii) kuwapora

……

……

……

2.**MUHTASARI (ALAMA 15)**

Mfumo wa elimu wa 8.4.4 ulipoanzishwa nchini mnamo 1983, lengo kuu lilikuwa ni kuwapa wanafunzi maarifa ya kielimu hasa ya kiutendakazi ili kuwawezesha kijitegemea baada ya kumaliza masomo. Hata hivyo, wakosoaji wa mfumo huu wanasema kwamba yaliyomo kwenye mtaala ni mengi mno na kwamba mtaala wenyewe ni mzigo mzito kwa wanafunzi kando na kuegemea mno mitihani.

Hata baada ya kupunguzwa kwa idadi ya masomo ya kutahiniwa kwenye mfumo huu, mambo yalikuwa changamano zaidi wakati serikali ya NARC ilipoingia mamlakani na kuanzisha mfumo wa elimu ya msingi bila malipo mnamo 2003. Hatua hiyo ilisababisha idadi ya wanafunzi waliojiunga na shule za msingi kuongezeka maradufu-kutoka wanafunzi milioni 5 hadi wanafunzi milioni 8 mnamo 2009.

Licha ya kwamba mfumo wa elimu ya msingi bila malipo umesifiwa hapa na pale, wadadisi wa mambo hata hivyo wanatilia shaka masuala fulani kuuhusu. Mojawapo ya masuala haya ni viwango vya ubora wa elimu wanayopata watoto wetu. Kwa mujibu wa utafiti uliofanywa na taasisi ya Uwezo Kenya mnamo Oktoba mwaka 2009, ilibainika kwamba mwanafunzi mmoja kati ya wanafunzi wanne katika kiwango cha shule ya msingi hufika katika darasa la tano bila ya kuwa na uwezo wa kujibu maswali ya masomo ya mwanafunzi wa darasa la pili.

Pamoja na hayo, uchunguzi huo ulibainisha kwamba takriban asilimia nne ya wanafunzi chini ya mfumo wa elimu ya msingi bila malipo husoma na kukamilisha masomo ya darasa la nane bila kupata maarifa ya kimsingi ya kusoma na kuandika au hata ujuzi wa kufanya hisabati za kimsingi

Hatua ambazo zimekwisha kuchukuliwa na serikali mpaka sasa-hasa ujenzi wa madarasa na amara ya kukidhi mahitaji ya idadi kubwa ya wanafunzi katika mfumo wetu wa elimu-hazijafanikiwa sana.

Aidha, ingawa serikali imeamua kuwaajiri walimu kwa mpango wa kandarasi, ili kukidhi nakisi ya takriban walimu 60,000 katika shule za msingi na upili, hatua hizo bado hazijatatua lolote!

Hali hii imesababisha uwiano kati ya mwalimu na wanafunzi kuwa 1:80 katika baadhi ya sehemu nchini na kufanya walimu kushindwa kutoa huduma bora kwa kila mwanafunzi. Katika hali ya kawaida, mwalimu mmoja anapaswa kuwafundisha wanafunzi kati ya 35 hadi 40. Hii inamaanisha kwamba mwalimu mmoja hushughulika idadi maradufu ya kiwango kilichoidhinishwa kote ulimwenguni. Katika mazingira kama haya, inakuwa vigumu mno kwa mwalimu kufundisha na kuwaridhisha wanafunzi-hasa wale ambao si wepesi wa kushika mambo.

Kuhusiana na vifaa vya kufundishia, bado kuna mushkili hasa ikichukuliwa kwamba kashfa iliyowakumba Waziri wa Elimu, Prof. Sam Ongeri, na aliyekuwa katibu katika wizara hiyo, Prof. Karega Mutahi, haikusuluhishwa. Kwenye kashfa hiyo, fedha zilizonuiwa kununua vifaa kama vile vitabu au kugharimia mpango wa elimu bila malipo zilitoweka kwa njia ya ajabu sana.

Hivi sasa, serikali imekaa tutwe huku watoto wetu wakiumia shuleni kana kwamba hakuna lolote lililotendeka. Shule nyingi hasa za msingi zina maktaba zilizojaa vitabu vya kiada. Hali hii bila shaka haiwachochei wanafunzi kuwa na msukumo wa kusoma kwa lengo la kujua mambo, husoma ili kupita mitihani tu. Utamaduni wa kusoma nchini unatiliwa shaka sana na hatujui ni lini utakapoimarika.

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

Watoto wanapaswa kukuzwa katika mazingira ya mfumo wa elimu unaothamini kusoma kwa minajili ya kupata maarifa na kupanua mtazamo wao, kinyume na sasa ambapo wanafunzi wanaotia fora katika mitihani hawajui chochote nje ya mitihani hiyo.

Tangu 2001, wadau katika sekta ya uandaaji na uchapishaji wa vitabu nchini Kenya, Uganda na Tanzania chini ya mwavuli wa Mradi wa Ustawishaji wa Vitabu Afrika ya Mashariki wamekuwa wakifanya juhudi za kimakusudi za kukuza na kupalilia utamaduni wa kusoma.

Nina wasiwasi kwamba kutokana na mlipuko wa 'teknohama' kote ulimwenguni, huenda watoto wetu wakaweka vitabu pembezoni na kushabikia mtandao wa intaneti na runinga badala ya kuchangamkia vitabu, majarida, magazeti na maandishi mengine kwenye karatasi.

Maswali

a) Eleza kasoro za mfumo wa 8.4.4 kulingana na kifungu. (Maneno 25) (alama 4)

Matayarisho

……

……

……

……

……

……

……

……

……

……

Jibu

……

……

……

……

……

……

……

……

……

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

……

……

……

……

……

b) Mfumo huu wa elimu ya msingi bila malipo unatiliwa shaka kwa sababu ya mambo kadhaa. Fafanua.

(Maneno 75) (Alama 11, 2 za mtiririko)

Matayarisho

……

……

……

……

……

……

……

……

……

……

Jibu

……

……

……

……

……

……

……

……

……

……

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

……

……

……

……

3.**MATUMIZI YA LUGHA (ALAMA 40)**

a) Ukirejelea mkondo wa hewa kutoka mapafuni, eleza sifa za kimatamshi za ving'ong'o. (alama 2)

……

……

……

b) Kwa kuzingatia sehemu zilizopigiwa mstari, toa dhana inayojitokeza katika sentensi hii. (alama 2)

Alisugua meno, a<u>ka</u>oga a<u>ka</u>la kisha a<u>ka</u>ondoka.

……

……

……

c) Tumia neno vile kama (alama 3)

i) Kivumishi

……

……

ii) Kiwakilishi

……

……

iii) Kielezi

……

……

d) Yakinisha sentensi hii. (alama 1)

Kanisani simo wapatikanapo wezi.

……

……

e) i) Andika sentensi hii katika kinyume. (alama 1)

Mvua iliponyesha baba alienda kondeni.

……

……

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

ii) Andika hali ya ukubwa wingi. **(alama 2)**

Nyoka yule alimuuma mtoto mkono.

……

……

f) Tunga sentensi moja kudhihirisha kihusishi cha ‘na’ ya mtenda. (alama 2)

……

……

……

g) Onyesha dhana mbili zinazojitokeza baada ya kitenzi kunyambuliwa katika kauli ya kutendeka. (alama 2)

……

……

……

……

h) Eleza matumizi ya viambishi vilivyopigiwa mstari. (alama 2)

Amkeni mwende dukani!

……

……

……

i) Andika sentensi ifuatayo katika usemi wa taarifa. (alama 2)

Kasisi alitushauri, “Yafaa tamaduni ambazo hazitufai ziachwe”.

……

……

……

……

j) Tumia kitenzi ‘alikuwa’ katika sentensi kama

i) Kitenzi kisaidizi. (alama 1)

……

……

ii) Kitenzi kishirikishi kikamilifu. (alama 1)

……

……

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

……

……

k) Tofautisha sentensi hizi. (alama 2)

i) Ningalimwona jana ningalifurahi

ii) Ningemuona jana ningefurahi

……

……

……

l) Kwa kuzingatia sehemu iliyopigwa mstari, toa maana inayojitokeza.

i) Wao <u>huenda</u> msikitini kila ijumaa (alama 1)

……

……

ii) Watoto <u>wacheza</u> majini. (alama 1)

……

……

m) Tambua chagizo katika sentensi hii. (alama 1)

Yeye huchapwa na mkewe mara kwa mara.

……

……

n) Weka shadda katika maneno haya. (alama 1)

i) Mtoto

……

ii) Mto

……

o) Huku ukitoa mfano eleza maana ya

i) Silabi wazi (alama 1)

……

……

……

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

ii) Silabi funge (alama 1)

……

……

……

p) Nyambua vitenzi hivi katika kauli ya kufanyiza.

i) Jua (alama 1)

……

ii) Kana (alama 1)

……

q) Onyesha viambishi katika sentensi hii. (alama 3)

Nitamtafutisha

……

……

……

……

……

r) Tunga sentensi moja kuonyesha maana ya maneno haya

i) Figo (alama 1)

ii) Pigo (alama 1)

……

……

……

s) Pambanua sentensi hii ukitumia kielelezo matawi.

Japo alifanya kazi zote hakulipwa. (alama 3)

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

t) Tunga sentensi ukitumia ‘O’ rejeshi ya tamati. (alama 1)

……

……

……

4.**ISIMU JAMII (ALAMA 10)**

a) Eleza mitazamo miwili kuhusu chimbuko la lugha ya kiswahili nchini Kenya. (alama 2)

……

……

……

……

b) Eleza mambo manne yaliyochangia kuenea kwa lugha ya kiswahili zama za ukoloni. (alama 8)

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

JINA: ……

SHULE: ……..……

NAMBRI YA USAJILI: …….. SAHIHI: ……. TAREHE: ……

102/3
KISWAHILI
KARATASI YA TATU
FASIHI

MAAGIZO

1. Jibu maswali **manne** pekee.
2. Swali la kwanza ni la **lazima.**
3. Maswali mengine matatu yachaguliwe kutoka sehemu zilizozalia: **Riwaya, Tamthilia, Hadithi Fupi na Fasihi Simulizi.**
4. Usijibu maswali **mawili** kutoka sehemu **moja.**
5. **Karatasi hii ina kurasa tano za maswali.**

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
1	20	
2	20	
3	20	
4	20	
5	20	
6	20	
7	20	
8	20	
JUMLA	80	

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

1.<u>LAZIMA</u>

USHAIRI

Wafungwa wa kila mahali
Niarifu zenu idhilali
Maombolezo na machofu mlokabili

Wavuvi wa kila bahari
Leteni nyavu zilokumba hatari
Na nguvu za mawimbi mlohimili

Mafalahi wa kila jimbo duniani
Nileteeni yenu matambara leteni
Leteni hiyo mikono majuruhi
Na yalonyauka matiti
Na kucha zenu maiti
Nyote leteni kwangu
Leteni haraka leteni

Naunda mikitaba yakini
Ya dhiki za maskini
Kumpelekea Manani
Ishapotiwa saini
na midomo ya wala njaa
lakini, enyi mafukara wa dunia
Hofu yangu kubwa namwambia
Mungu huenda ikatukia
Hajui kusoma ... hili nachelea

Maswali

(a)	Ainisha shairi hili. Toa sababu ya jibu lako.	**(alama 2)**
(b)	Tetea kwa kutoa hoja **nne** kauli kuwa utungo huu ni ushairi.	**(alama 4)**
(c)	Idhini ya mshairi inajitokeza vipi?	**(alama 3)**
(d)	Eleza ujumbe uliofumbatwa katika utungo huu.	**(alama 3)**
(e)	Ukitolea mifano, onyesha mbinu inayotawala katika shairi hili.	**(alama 2)**
(f)	Ubeti wa mwisho unakatisha tamaa. Thibitisha.	**(alama 3)**
(g)	Eleza muundo wa ubeti wa kwanza na wa pili.	**(alama 3)**

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

RIWAYA: CHOZI LA HERI - ASSUMPTA MATEI

Jibu swali la pili au la tatu

2

a) … haya imekuandama tangu usiku ukimtongoza fulani; siku za kuchora ramani ya Afrika kwa vyanda vya miguu, hadi sasa? Ama ni hizo mvi unaficha? Naskia ile *mid-life crisis* ikiwashika wazee ndiyo hivyo.

i) Weka dondoo hili kwenye muktadha wake. **(alama 4)**
ii) Tambua mbinu zozote tatu za kimtindo kwenye dondoo hii **(alama 3)**
iii) Jadili sifa zozote tano za msemewa **(alama 5)**

b) Thibitisha kauli kwamba **'kweli jaza ya hisani ni madhila'** kwa kurejelea wahusika **wanane** kwenye riwaya ya *Chozi la Heri*. **(alama 8)**

3. **Hakuna marefu yasiyokuwa na ncha.** Thibitisha ukweli wa methali kwa kurejele maudhui yoyote kumi katika *Chozi la Heri* **(alama 20)**

TAMTHILIA: KIGOGO - PAULINE KEA

Jibu swali la nne au la tano

4. "Alizaliwa na meno mdomoni. Kisirani huyu! Wataka kuniharibia siku yangu nile nini? Wafikiri nauza nyonga kama huyo Tunu wako?"

" ... Boza, tusikoseane heshima. Nita..."

"Jaribu uone! Ama unafikiri hao watu wenu, sijui watetezi wa nini watawatetea? Nanyi mheshimu uhuru wenu."

a) Bainisha vipengele sita vya kimtindo vilivyotumiwa kwenye dondoo. **(alama 6)**
b) Yatambue mandhari ambamo mazungumzo haya yanafanyika. **(alama 2)**
c) Onyesha jinsi mandhari uliyoyabainisha katika (b) yalivyotumiwa kuendeleza usimulizi wa hadithi. **(alama 12)**

5. "Jukumu la kulinda uhai. Kulinda haki. Kulinda uhuru… Hujasahau mafanikio…"

a) Weka dondoo hili katika muktadha wake. **(alama 4)**
b) Fafanua hulka nne za msemewa zinazojitokeza ndani ya muktadha huu**.(alama 4)**
c) Onyesha msemaji alivyofanikiwa katika azma yake ukirejelea tamthilia zima. **(alama 4)**

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

HADITHI FUPI: TUMBO LISILOSHIBA NA HADITHI NYINGINE

Jibu swali la sita au la saba

6. Mame Bakari

"Dunia we' dunia. Dunia ya mwenye nguvu, si ya mimi dhaifu wa nguvu. Dunia ya msumari moto juu ya donda bichi. Hao watu je?"

(a) Eleza muktadha wa dondoo hili. **(alama 4)**
(b) Fafanua mbinu mbili za kimtindo zinazojitokeza katika dondoo hili. **(alama 4)**
(c) Thibitisha kauli "Dunia ya msumari moto juu ya donda bichi" ukirejelea **Hadithi ya Mame Bakari.** **(alama 6)**
(d) Fafanua jinsi mwanamke alivyosawiriwa katika hadithi hii. **(alama 6)**

7. Tulipokutana Tena

Nadhani kicheko chake kiliwaambukiza wenzangu maana vicheko vya nguvu viliwapasuka pamoja. Kama unavyoona, hivi vilikuwa vicheko vya mzaha na utani. Miongoni mwetu sote, Kazu alicheka zaidi. Alicheka kicheko mpaka mbavu zikamtafuna. Na alipocheka basi, alicheka kwa namna ya ajabu iliyonifurahisha sana. Alicheka huku ameviringa ngumi mbele ya kinywa kama ambaye anazuia hicho kicheko chenye nguvu za kutoa ***mwangwi*** uliosafiri robo dunia. Isitoshe, alipocheka namna hiyo, alijirusharusha kitini na kujivuta nyuma kwenye mgongo wa kiti na kuinua miguu yake mpaka soli za viatu vyake zikaonekak. Kumtazama Kazu akicheka ni namna ya kituko. Kila siku nikiwa naye, mimi huhakikisha kwamba namchekesha kwa mzaha huu na ule ili nimwone namna anavyocheka. Hata hivyo, yeye naye hakuwa mchekeshaji mdogo.

"Aaa, hadithi za kichawi Kazu, ziko kila pahala duniani," nilimwambia kwa kujitetea. "Unakumbuka mkasa maarufu hapa penu wa chatu lililotambaa kutoka Mashariki hadi Magharibi huku limemeza maelfu ya watu tumboni? Lilisafiri kwa masafa ya zaidi ya kilomita mia tano hivi na kuwatema watu hao huko Magharibi!"

(a) Tambua mbinu tano za kimtindo katika dondo hili. **(alama 5)**
(b) Eleza jinsi mwandishi alivyofaulu kutumia mbinu rejeshi katika kuijenga hadithi ya Tulipokutana Tena. **(alama 5)**
(c) Onyesha umuhimu wa mandhari ukirejelea Club Pogopogo. **(alama 4)**
(d) Hakiki matatizo aliyoyapitia Bogoa Bakari aushini mwake. **(alama 6)**

FASIHI SIMULIZI

8. ***Soma kifungu kifuatacho kisha ujibu maswali yanayofuata***.

Mabibi na mabwana, ndugu na marafiki hamjambo! Nimefika hapa leo kushuhudia sherehe za vijana hao wanaofuzu kuingia utu uzimani. Tangu jadi mababu zetu waliandaa sherehe kama hizi ili kuwaandaa vijana wao kukabiliana na maisha ya usoni. Wanangu, utu uzima hautokani tu na viviga au kisu cha ngariba. Ni matendo na tabia. Naam, ni matendo na tabia. Katika jamii ya sasa watu humpima mtu kutokana na ufanifu wake kiuchumi, kielimu na kijamii. Mtu asiye na mali yake hubezwa kwa kutofanya bidii inavyostahili. Hivyo basi, nawashauri vijana wanaofuzu leo kuwa, mnafaa kutia bidii masomoni ili mustakabali wenu uwe mzuri. Katika nyakati zetu, ubingwa wetu ulipimwa katika fani ya vita na ngoma. Ungewasikia wanaume wakijisifu kwa wimbo wakisema:

Ooh ooh ooh!

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

Mimi ni chuma inayoishi
Ningiapo vitani, macho yangu tu huwafisha wengi.
Viganja vyangu vimeiletea jamii yetu fahari
Wananiita Ngao.
Juzi ngomani niliwapiku wote
Wanawali waliniangukia kwa kutaka uchumba
Nani mwingine kama Ngao?

Hata hivyo, hali katika jamii ya sasa ni tofauti. Ngoma imekuwa nyenzo ya burudani tu. Navyo vita vya kikabila vimepitwa na wakati. Wanaopigana aghalabu huchukiliwa hatua kali za kisheria. Elimu ni silaha ya pekee. Elimu itawafungulia milango ya heri. Ndugu na marafiki, nawaomba nyote muwasisitizie vijana hao umuhimu wa kuwatii walimu wao na kutia bidii masomoni watakaporudi shuleni. Msisite kuwaadhibu wanapokosea. Ni muhimu kukumbuka kuwa, mchelea mwana kulia hulia mwenyewe. Tulisimuliwa na bibi kuwa, hapo zamani za kale mwanamke fulani alificha mnyama hatari aliyekuwa akifukuzwa na mashujaa wa jamii. Baada ya mashujaa hao kuondoka, mnyama huyo alimla mwanamke huyo. Ingawa ni hadithi, kisa hicho kinatufunzwa kuwa, hatufai kuficha matendo mabaya ya wanetu. Tuwarekebishe mapema.

Nikimaliza naomba kuwajuza vijana hawa kuwa, tohara siyo ufunguo wa ulevi. Inahuzunisha kuwakuta vijana wadogo wamelala matopeni kwa kushindwa kutembea kutokana na ulevi. Wengine hubaki pale hadi asubuhi wakitumbuizwa na milio ya vyura. Nina matumaini kuwa, kundi hili litakuwa tofauti. Asanteni kwa kunisikiliza.

Maswali

(i) Tambua kipera katika dondoo. **(alama 1)**
(ii) Eleza sifa za kipera ulichotaja katika (i) **(alama 4)**
(iii) Eleza dhima zozote mbili za kipera ulichotaja katika (i) **(alama 2)**

(iv) Tanzu za fasihi huingiliana na kutegemeana. Thibitisha kauli hii kwa kurejelea kifungu hiki. **(alama 5)**

(v) Eleza toni iliyobainika katika kifungu. **(alama 2)**
(vi) Fafanua mbinu za kimtindo zinazodhihirika katika kifungu hiki. **(alama 6)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

121/1
MATHEMATICS
PAPER 1
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

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, section **I** and section II.
d) Answer **all** the questions in **section I** and only **five** questions 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.
g) Marks may be given for correct working even if the answer is wrong.
h) Non- programmable silent calculators and KNEC mathematical tables may be used except where stated otherwise.
i) This paper consists **16** printed pages.
j) Candidates should check the question paper to ascertain that all the papers are printed as indicated and that no questions are missing.

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 I (50 MARKS)

Answer ALL the questions from this section.

1.Find the reciprocals of 0.216 correct to 3 decimal places hence evaluate;

$$\frac{\sqrt[3]{0.512}}{0.216}$$ **(3 marks)**

2.Without using a calculator, evaluate;

$$\frac{1\frac{1}{5}-1\frac{1}{3}}{\frac{1}{8}-\left(-\frac{1}{2}\right)^2}-\frac{7}{15}\text{ of }2$$ **(4 marks)**

3.Three bells ring at intervals of 9 minutes, 15 minutes and 21 minutes.

The bells will next ring together at 11.00pm. Find the time the bells had last rang together. **(3 marks)**

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

4.Simplify the expression.

$\frac{6x^2-13x+6}{4x^2-9}$ **(3 marks)**

5.Without using a calculator or mathematical tables, solve the equation

$2\log_{10} x - 3\log_{10} 2 + \log_{10} 32 = 2$ **(4 marks)**

6.A line L passes through point (3, 1) and is perpendicular to the line 2y = 4x + 5.

Determine the equation of line L. **(3 marks)**

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

7.A forex bureau in Kenya buys and sells foreign currencies as shown below.

Currency	Buying (Ksh)	Selling (Ksh)
Chinese Yuan	12.34	12.35
South African rand	11.28	11.37

A businesswoman from China converted 195,250 Chinese Yuan into Kenya shillings.

a) Calculate the amount of money in Kenya shillings that she received. **(1 mark)**

b) While in Kenya, the businesswoman spent Ksh.1,258,000 and then converted the balance into South African Rand. Calculate the amount of money to the nearest Rand that she received. **(3 marks)**

8.The seventh term of an A.P is 20 and the sum of the first 20 terms is 610.

Find the first term and the common difference. **(3 marks)**

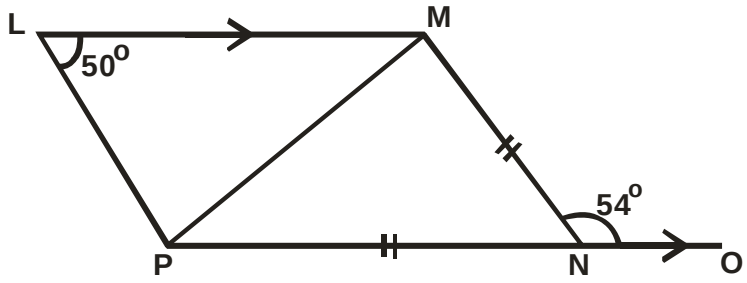
Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

9.The points P, Q and R lie on a straight line. The position vectors of P and R are $2i + 3j + 13k$ and $5i - 3j + 4k$ respectively. Q divides PR internally in the ratio 2 : 1. Find

a) The position vector of Q. **(2 marks)**

b) Distance of Q from the origin. (1 mark)

10. In the figure below, $\angle MNO = 54^o$, $\angle PLM = 50^o$, PN = NM and PO is parallel to LM. Find the value of $\angle LPM$. **(3 marks)**



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

11. Two matrices A and B are such that A = $\begin{pmatrix} k & 4 \\ 3 & 2 \end{pmatrix}$ and B = $\begin{pmatrix} 1 & 2 \\ 3 & -4 \end{pmatrix}$.

Given that the determinant of AB = 10, find the value of k. **(3 marks)**

12. Two pipes A and B can fill an empty tank in 3 hours and 5 hours respectively. Pipe C can empty the full tank in 4 hours. If the three pipes A, B and C are opened at the same time, find how long they will take to fill the tank. **(3 marks)**

13. Determine the equation of the normal to the curve $y = x^2 - 3x + 1$ at a point (-2, 3) giving your answer in the form ax + by = c. **(3 marks)**

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

14. The size of each interior angle of a regular polygon is five times the size of exterior angle.
Find the number of sides of the regular polygon. **(3 marks)**

15. Find the integral values of x which satisfy the inequalities.

$x + 8 > 4x - 6 \geq 3(4 - x)$ **(2 marks)**

16. John had two bags A and B containing sugar. If he removed 2kg from bag A and added to bag B, the mass of sugar in bag B would be four times the mass of sugar in bag A. If he added 10kg of sugar to the original amount of sugar in each bag, the mass of sugar in B would be twice the mass of the sugar in bag A.
Calculate the original mass of sugar in each bag. **(3 marks)**

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

SECTION II (50 MARKS)

Answer any FIVE questions from this section

17. The table below shows the height measured to the nearest cm of 101 pawpaw trees.

Height in cm	20 – 24	25 – 29	30 – 34	35 – 39	40 – 44	45 – 49	50 – 54	55 – 59
Frequency	2	15	18	25	30	6	3	2

a) State the modal class. **(1 mark)**

b) Calculate to 2 decimal places.

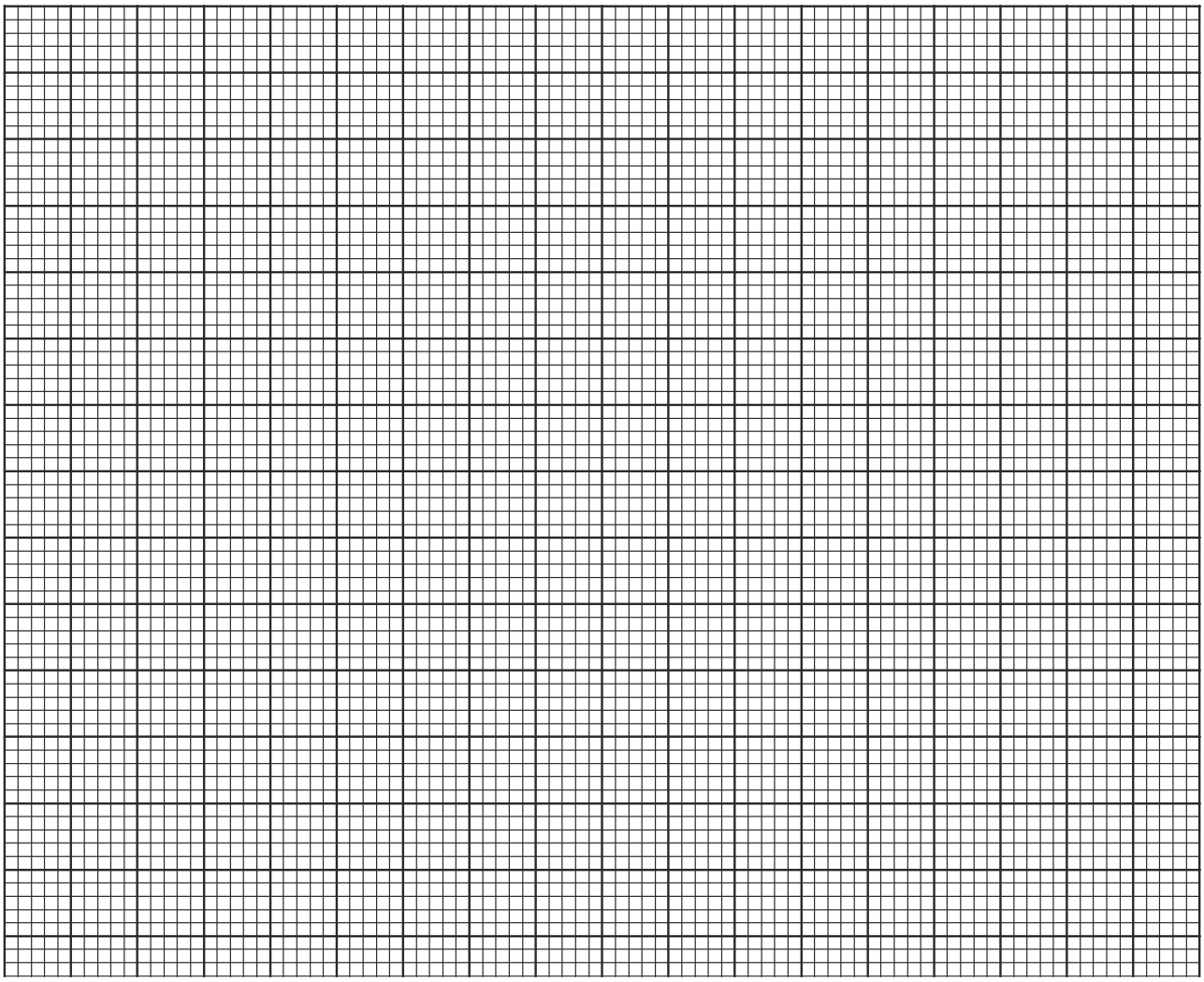
i) The mean height **(4 marks)**

ii) The difference between the mean height and the median height. **(5 marks)**

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

18. Three pegs R, S and T are on the vertices of a triangular plan field. R is 300m from S on a bearing of 300^{o} and T is 450m directly South of R.

a) Using a scale of 1cm to represent 60m, draw a diagram to show the position of the pegs. (3 marks)



b) Use the scale drawing to determine;

i) The distance between T and S in metres. **(2 marks)**

ii) The bearing of T from S. **(1 mark)**

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

c) Find the area of the field in hectares correct to one decimal place. **(4 marks)**

19. Mr. Mutuku owns a bicycle which he sometimes rides to go to work. Out of 21 working days in a month he only rides to work for 18 days. If he rides to work the probability that he is bitten by a rabid dog is $\frac{4}{15}$ otherwise it is only $\frac{1}{13}$. When he is bitten by the dog, the probability that he will get treatment is $\frac{4}{5}$ and if he does not get treatment the probability that he will get rabies is $\frac{5}{7}$

a) Draw a tree diagram to show the events. **(3 marks)**

b) Using the tree diagram above determine the probability that

i) Mr. Mutuku will not be bitten by a rabid dog. **(2 marks)**

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

ii) He will get rabies. **(2 marks)**

iii) He will not get rabies. **(3 marks)**

20. The volume Vcm^3 of a solid depends partly on r^2 and partly on r^3 where r is one of the dimensions of the solid. When r = 1, the volume is $54.6cm^3$ and when r = 2, the volume is $226.8cm^3$.

a) Find the expression for V in terms of r. **(5 marks)**

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

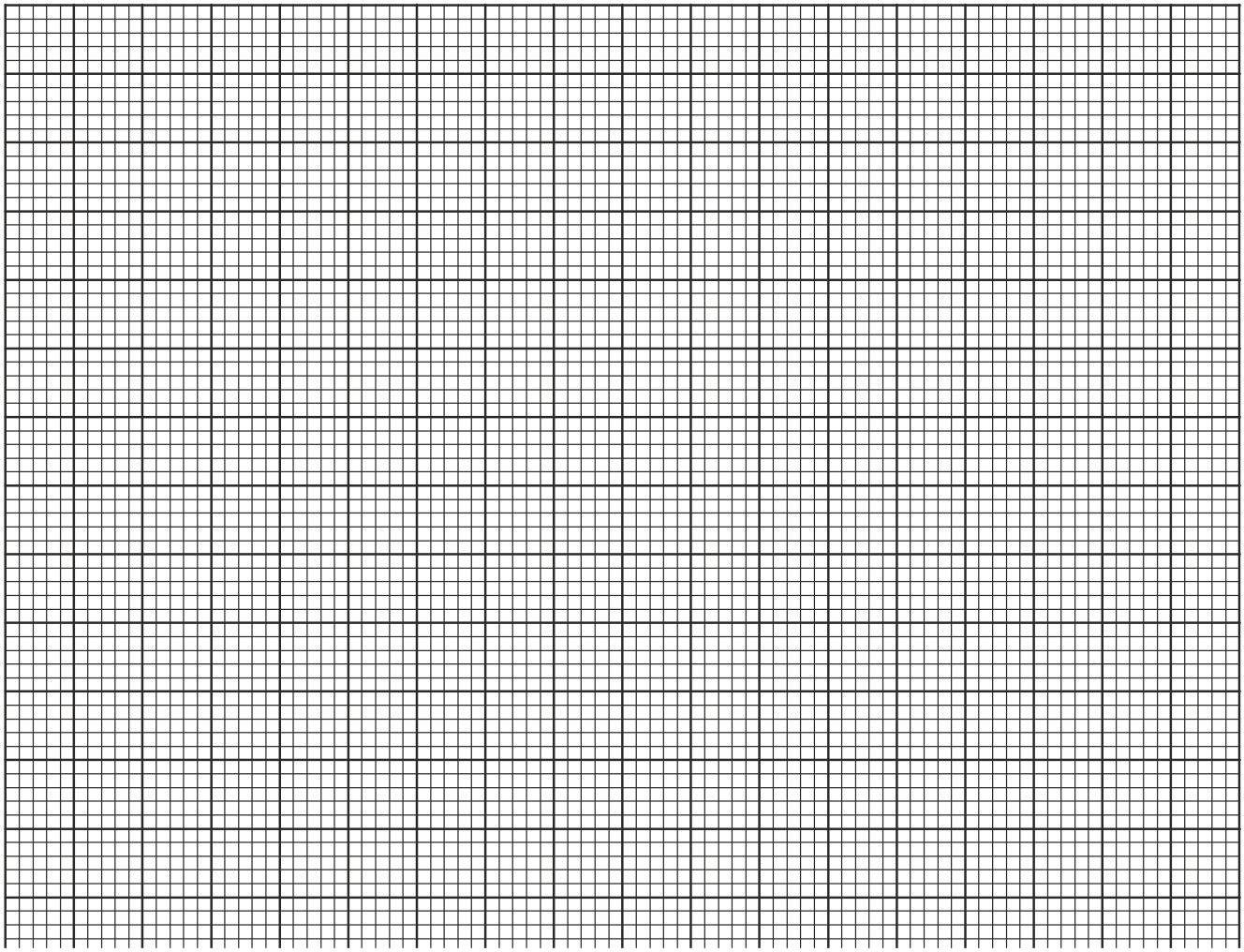
b) Calculate the volume of solid when r = 4. **(3 marks)**

c) Find value of r for which the two parts of the volume are equal. **(2 marks)**

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

21. The equation of a curve is given by $y = 5x - \frac{1}{2}x^2$

a) Draw the curve of $y = 5x - \frac{1}{2}x^2$ for $0 \leq x \leq 6$. **(3 marks)**



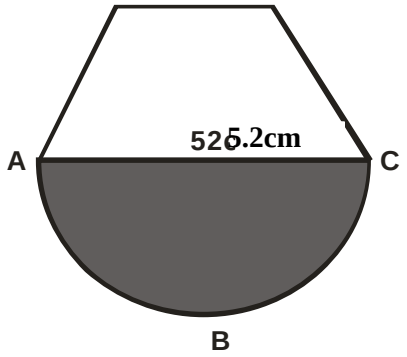
b) By integration find the area bounded by the curve, the line x = 6 and the x-axis. **(3 marks)**

c) i) On the same graph in (a) draw the line y = 2x **(1 mark)**

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

ii) Determine the area bounded by the curve and the line $y = 2x$ **(3 marks)**

22. The diagram below shows a cross section of a bottle. The lower part ABC is a hemisphere of radius 5.2cm and the upper part is a frustum of a cone. The top radius of the frustum is one third of the radius of the hemisphere. The hemisphere part is completely filled with water as shown in the diagram.



When the container is inverted, the water now completely fills on the frustum part.

a) Determine the height of the frustum part. **(7 marks)**

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

b) Find the surface area of the frustum part of the bottle. **(3 marks)**

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

a) The time the bus arrives at Eldoret. **(2 marks)**

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

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

c) The distance from Nairobi to where the two vehicles met. **(2 marks)**

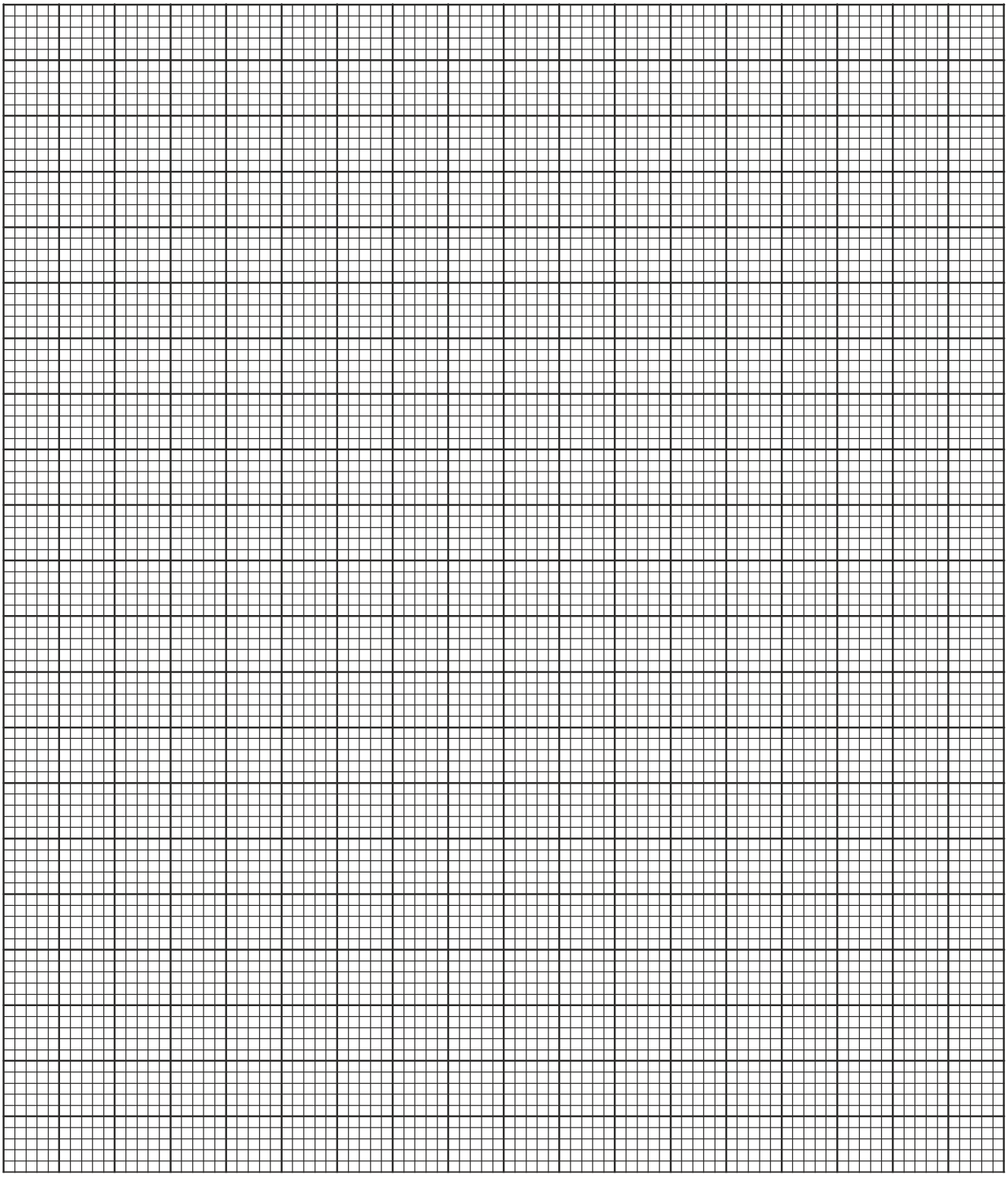
d) The distance of the bus from Eldoret when the car arrived at Nairobi. **(2 marks)**

24. a) Complete the table below for the function $y = 2x^3 + 5x^2 - x - 6$. **(3 marks)**

x	–4	–3	–2	–1	0	1	2
$2x^3$	–128	–54					
$5x^2$							
-x	4	3					
-6	–6	–6	–6	–6	–6	–6	–6
y	–50				–6	0	

b) Draw the graph of $y = 2x^3 + 5x^2 - x - 6$ for $-4 \leq x \leq 2$ **(3 marks)**

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



c) By drawing a suitable line, use the graph in (b) to solve the equations

i) $2x^3 + 5x^2 + x - 4 = 0$ **(2 marks)**

ii) $2x^3 + 5x^2 - x + 2 = 0$ **(2 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

121/2
MATHEMATICS
PAPER 2
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

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, **section I** and section II.
d) Answer **ALL** the questions in **section I** and only **five** questions 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.
g) Marks may be given for correct working even if the answer is wrong.
h) Non- programmable silent calculators and KNEC mathematical tables may be used except where stated otherwise.
i) This paper consists **16** printed pages.
j) Candidates should check the question paper to ascertain that all the papers are printed as indicated and that no questions are missing.

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 I (50 MARKS)

Answer ALL the questions from this section.

1.Use logarithms to evaluate, **(4 marks)**

$$\sqrt[3]{\frac{45.3 \times 0.00697}{0.534}}$$

2.Make P the subject of the formula

$$d = \sqrt[3]{\frac{P}{q-P}}$$ **(3 marks)**

3.Find the circle centre and radius whose equation is

$3x^2 + 3y^2 + 18x - 6y + 18 = 0$ **(3 marks)**

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

4. The volumes of two similar cylindrical containers are $27cm^3$ and $64cm^3$ respectively. Given that the height of the smaller container is 12cm, find the height of the larger container. **(2 marks)**

5. $3cm^3$ of water is added to $2cm^3$ of a certain medicine which costs sh.12 per cm^3.
The chemist sells the diluted medicine at sh.6 per cm^3. Calculate the percentage profit. **(3 marks)**

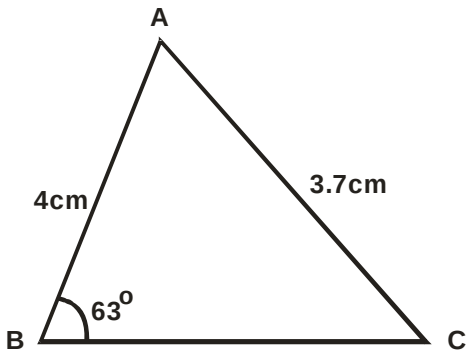
6. Given that $4y = 3 \sin \frac{2}{5}$ for $0 < \theta < 360^o$. Determine

a) The amplitude of the curve **(1 mark)**

b) The period of the curve. **(1 mark)**

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

7.Find the length BC of the following triangle if AC = 3.7cm, AB = 4cm and angle ABC = 63^{o}. **(3 marks)**



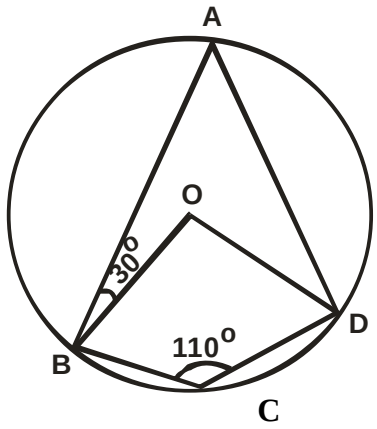
8.Solve for x in the equation

$27^{x-1} \times 3^{x+1} = 729$ **(3 marks)**

9.In the figure below ABCD is a cyclic quadrilateral. Point O is the centre of the circle.

$\angle ABO = 30^{o}$ and $\angle BCD = 110^{o}$.

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



Calculate the size of angle ADB. **(2 marks)**

10. Three people Mutua, Wanza and Kiilu contributed money to start a business. Mutua contributed a quarter of the money and Wanza two fifths of the reminder. Kiilu's contribution was one and a half times that of Mutua. They borrowed the rest of the money from a bank which was sh.60,000 less than Kiilu's contribution. Find the total amount required to start the business. **(4 marks)**

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

11. Simplify $\frac{\sqrt{3}}{\sqrt{3}-\sqrt{2}}$ **(3 marks)**

12. Expand $\left(2-\frac{1}{4}x\right)^5$ and use the first three terms to find the value of 1.975^5 to four significant figures.

(4 marks)

13. The radius of a spherical ball is measured as 7cm correct to the nearest centimeter. Determine to 2 decimal places, the percentage error in calculating the surface area of the ball. **(3 marks)**

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

14. Given that $\tan\theta = \frac{1}{\sqrt{5}}$ where θ is an acute angle, find without using tables or calculator $\sin(90 - \theta)$ leaving your answer in the simplified surd form. **(4 marks)**

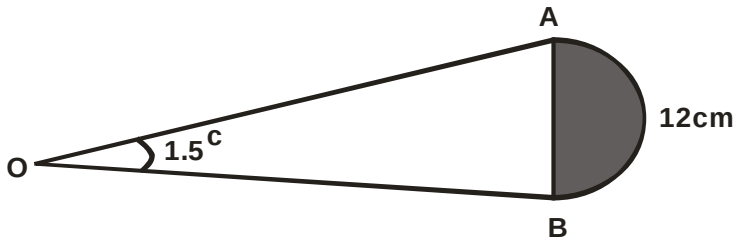
15. Given that a = 1.2, b = 0.02 and c = 0.2, express ac ÷ b in the form $\frac{m}{n}$ where m and n are integers.

(3 marks)

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

16. The diagram below shows sector AOB of a circle centre O.

$\angle AOB = 1.5^C$ and arc AB is of length 12cm.



a) Determine the radius OA of the circle. **(1 mark)**

b) Calculate the area of the shaded region. Give your answer correct to 3 s.f. **(3 marks)**

SECTION II (50 MARKS)

Answer any FIVE questions from this section

17. The table below shows the taxation rates.

Income (£ per month)	Rate %
0 – 382	10
383 – 754	15
755 – 1126	20
1127 – 1498	25
1499 – 1870	30
1871 – 2242	35
Over 2242	40

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

Mueni is housed by her employer but pays a nominal rent of sh.1200 per month. She is entitled to a personal relief of sh.950 per month. If her monthly P.A.Y.E is sh.7024,

a) Calculate her gross income. **(5 marks)**

b) In addition to the tax the following monthly deductions are also made

Sacco shares	Ksh. 1200
Coop loan	Ksh.1500
Union dues	Ksh.300

Calculate

i) Her monthly salary. **(3 marks)**

ii) Net monthly salary **(2 marks)**

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

18. Use a ruler and compasses only for all construction in this question.

a) Construct a triangle ABC in which AB = 8cm, BC = 7.5cm and $\angle ABC = 112\frac{1}{2}^{o}$. **(3 marks)**

b) Measure the length of AC. **(1 mark)**

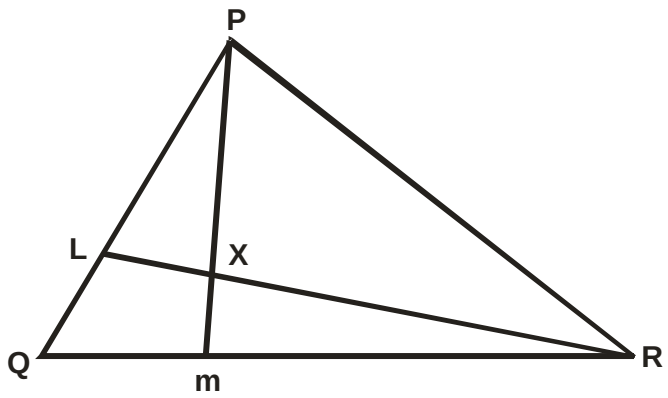
c) By shading the unwanted region show the locus of P within the triangle ABC such that AP $\leq$ BP, AP > 3cm. Mark the required region as P. **(3 marks)**

d) Construct a normal from C to meet AB produced at D. **(1 mark)**

e) Locate the locus of R in the same diagram such that the arc of triangle ARB is $\frac{3}{4}$ the arc of the triangle ABC. **(2 marks)**

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

19. 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 $\underset{\sim}{PQ} = \underset{\sim}{b}$ and $\underset{\sim}{PR} = \underset{\sim}{c}$



a) Express the following vectors in terms of $\underset{\sim}{b}$ and $\underset{\sim}{c}$.

i) QR **(1 mark)**

ii) $\underset{\sim}{Pm}$ **(1 mark)**

iii) $\underset{\sim}{RL}$ **(1 mark)**

b) By taking $\underset{\sim}{PX} = h\underset{\sim}{Pm}$ and $\underset{\sim}{RX} = k\underset{\sim}{RL}$ where h and k are constants. Find two expressions of $\underset{\sim}{PX}$ in terms of h, k, b and c. Hence determine the values of the constants h and k. (6 marks)

c) Determine the ratio $\underset{\sim}{LX} : \underset{\sim}{XR}$. (1 mark)

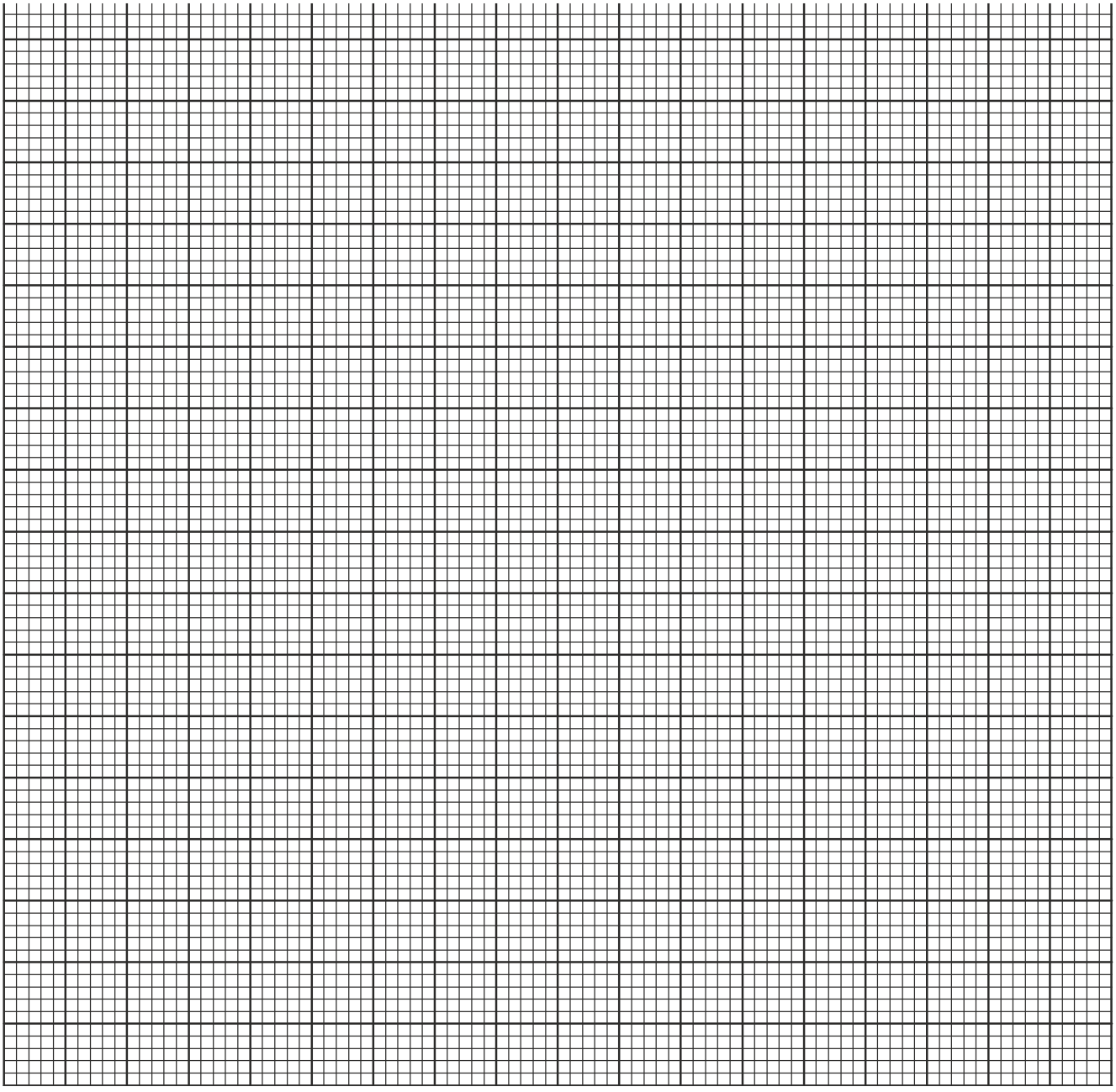
Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

20. OABC is a parallelogram with vertices O(0, 0), A(2, 0), B(3, 2) and C(1, 2).

$O^IA^IB^IC^I$ is the image of OABC under a transformation matrix $\begin{pmatrix} -2 & 0 \\ 0 & -2 \end{pmatrix}$.

a) i) Find the coordinates of $O^IA^IB^IC^I$ **(2 marks)**

ii) On the graph provided, draw OABC and $O^IA^IB^IC^I$ **(2 marks)**



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

b) i)Find $O^{II}A^{II}B^{II}C^{II}$, the image of $O^{I}A^{I}B^{I}C^{I}$ under the transformation matrix $\begin{pmatrix} 1 & 0 \\ 0 & -2 \end{pmatrix}$. **(2 marks)**

ii) On the same grid, draw $O^{II}A^{II}B^{II}C^{II}$. **(1 mark)**

c) Find the single matrix that maps $O^{II}A^{II}B^{II}C^{II}$ onto OABC. **(3 marks)**

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

21. An aircraft leaves town P (30^oS, 17^oE) and moves directly towards Q (60^oN, 17^oE). It then moved at an average speed of 300 knots for 8 hours Westwards to town R. Determine

a) The distance PQ in nautical miles. **(2 marks)**

b) The position of town R. **(4 marks)**

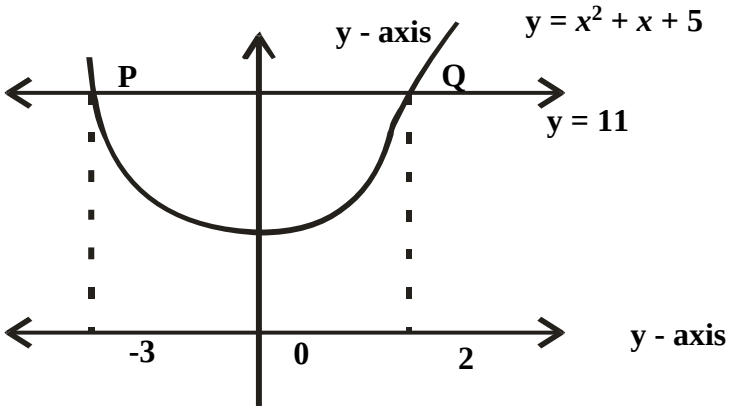
c) The local time at R if local time at Q is 3.12p.m **(2 marks)**

d) The total distance moved from P to R in kilometers. (Take 1nm = 1.853km) **(2 marks)**

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

22. The figure below is a sketch of a curve whose equation is $y = x^2 + x + 5$.

It cuts the line $y = 11$ at points P and Q.



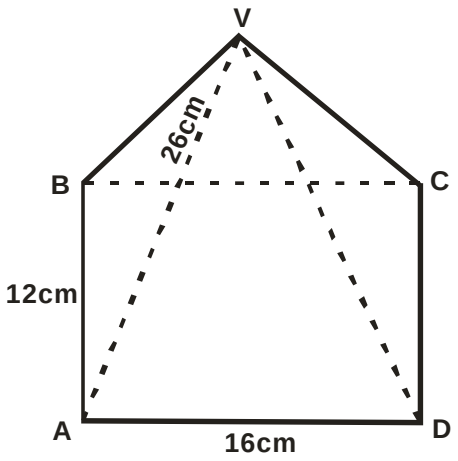
a) Find the area bounded by the curve $y = x^2 + x + 5$ and the line $y = 11$ using the trapezium rule with 5 strips.

(5 marks)

b) Calculate the difference in the area if the mid-ordinate rule with 5 ordinates was used instead of the trapezium rule. **(5 marks)**

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

23. The figure below represents a rectangular based pyramid VABCD. AB = 12cm and AD = 16cm. Point O is vertically below V and VA = 26cm.



Calculate:

a) The height, VO, of the pyramid. **(4 marks)**

b) The angle between the edge VA and the plane ABCD. **(3 marks)**

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

c) The angle between the planes VAB and ABCD. **(3 marks)**

24. The distances S metres from a fixed point O, covered by a particle after t seconds is given by equation $S = t^3 - 6t^2 + 9t + 5$

a) Calculate the gradient to the curve at t = 0.5 seconds. **(3 marks)**

b) Determine the values of S at the maximum and minimum turning points of the curve. **(4 marks)**

c) On the space provided, sketch the curve of $S = t^3 - 6t^2 + 9t + 5$. **(3 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

232/1
PHYSICS
PAPER 1
(THEORY)
TIME: 2 HOURS

INSTRUCTIONS

1.Write your name, school and index number in the spaces provided above.
2.Sign and write the date of examination in the spaces provided above.
3.This paper consists of **two** sections, **section A** and **B**.
4.Answer **ALL** the questions in **section A** and **B** in the spaces provided.
5.**ALL** answers and working **MUST** be clearly shown.
6.Non programmable, silent electronic calculators and KNEC Mathematical tables **may be** used.
7.This paper consists of **11** printed pages
8.Candidates should check to ensure that all pages are printed as indicated and no questions are missing.

Where necessary take - $g = 10\ ms^{-2}$

- Specific heat capacity of copper = $400\ Jkg^{-1}k^{-1}$
- Specific heat capacity of oil = $2400\ J/kg^{-1}k^{-1}$
- Specific latent heat of fusion of ice = $336000\ Jkg^{-1}$

FOR OFFICIAL USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1–13	25	
B	14	12	
	15	12	
	16	11	
	17	11	
	18	09	
	TOTAL	80	

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

SECTION A (25 MARKS)

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

1. The micrometer screw gauge represented in figure 1 below has a thimble scale of 50 divisions.

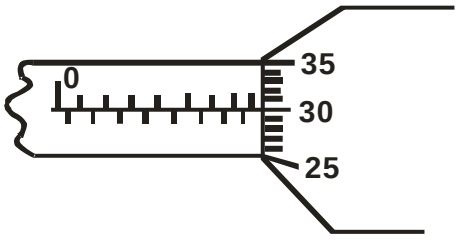


Figure 1

What is the reading shown? **(1 mark)**

2. Two identical tubes A and B held horizontally contain air and water respectively. A small quantity of coloured gas is introduced at one end of A while a small quantity of coloured water is introduced to one end of B. State with reasons the tube in which the colour will reach the other end faster. **(2 marks)**

……

……

……

……

3. In the study of free fall, it is assumed that the force F acting on a given body of mass, m, is gravitational, given by F = ma. State **two** other forces that act on the same body. **(2 marks)**

……

……

……

……

4. Figure 2 below shows a uniform metre rule of weight, 1N with two weights of 0.18N and 0.12N suspended from its ends.

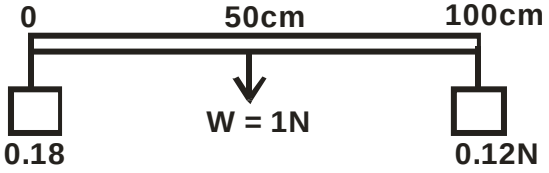


Figure 2

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

Determine how far from the 0.18N a pivot should be placed in order to balance the metre rule. **(3 marks)**

5.Sketch a velocity time graph for a body moving down a viscous fluid. **(1 mark)**

6.State the reason why banking of a circular part of road is necessary. **(1 mark)**

……

……

……

……

7.A lady of mass 80kg walks up a flight of 10 stairs each 20cm high in 5 seconds.

Determine the power she develops. **(3 marks)**

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

8.Figure 3 shows a fire alarm circuit.

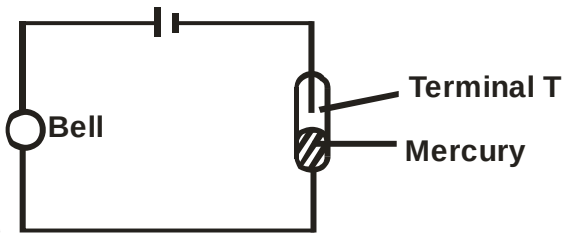


Figure 3

Explain how it works. **(3 marks)**

……

……

……

……

……

……

9.A light spiral spring extends by 4mm when loaded with a weight W. The spring is connected in series with an identical spring. The combination is loaded with weight W.

Determine the extension of the combination. **(2 marks)**

10. In an experiment to demonstrate atmospheric pressure, a plastic bottle is partially filled with hot water and the bottle is then tightly corked. After some time the bottle starts to get deformed.

i) State the purpose of hot water. **(1 mark)**

……

……

……

ii) State the reason why the bottle gets deformed. **(1 mark)**

……

……

……

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

iii) Explain your answer in (ii) above. **(2 marks)**

……

……

……

……

11. Define the term angular velocity. **(1 mark)**

……

……

……

12. Tall buildings are built with lighter materials at the upper part. Explain. **(1 mark)**

……

……

……

13. State how the pressure in a moving fluid varies with speed of the fluid. **(1 mark)**

……

……

……

……

SECTION B (55 MARKS)

Answer ALL questions in this section in the spaces provided.

14. a) When a bullet of mass 0.02kg was fired into a block of ballistick pendulum of mass 1.98kg, the block rose through a height of 15cm as in the figure 4 below.

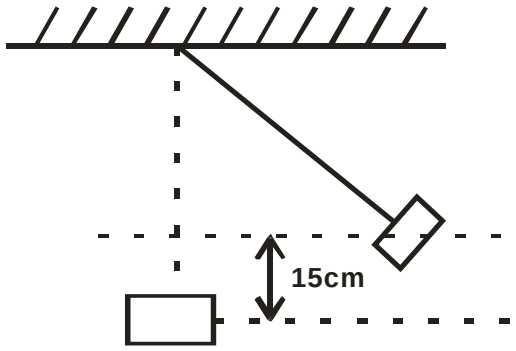


Figure 4

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

Determine:

i) The potential energy of the block and the bullet. **(2 marks)**

ii) The velocity of the bullet and block. **(2 marks)**

b)A trolley of mass 1kg moving at 1 ms^{-1} collides with a stationary block of wood of mass 2kg.

If the trolley and the block of wood are stuck together and moved a distance of 0.1m before coming to rest. Find the,

i) Velocity of the system after collision. **(2 marks)**

ii) Kinetic energy after collision. **(2 marks)**

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

iii) The frictional force. **(2 marks)**

c) In the figure 5 below shows a velocity time graph for an object in a certain motion.

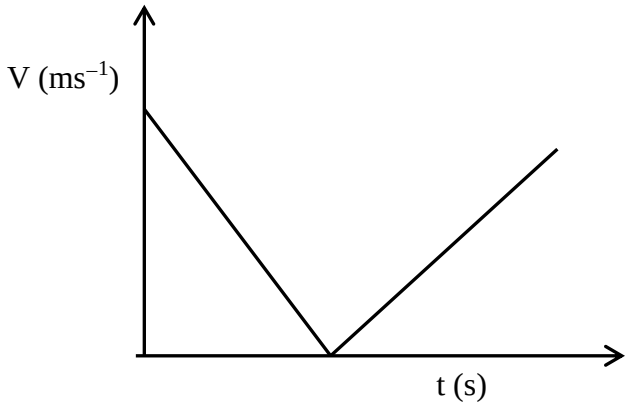


Figure 5

Describe the motion of the body. **(2 marks)**

……

……

……

……

……

……

15. a) Explain why bodies in circular motion undergo acceleration even when their speed in constant. **(1 mark)**

……

……

……

……

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

b) A particle moving along a circular path of radius 5m describes an arc length 2m every 2 seconds. Determine:

i) Its angular velocity. **(2 marks)**

ii) Its periodic time. **(2 marks)**

c) A stone of mass 40g tied to the end of a string of 50cm and whirled in a vertical circle at 2 revolutions per second. Calculate the maximum tension in the string. **(3 marks)**

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

d) Figure 6 below shows a container with small holes at the bottom in which wet clothes have been put.

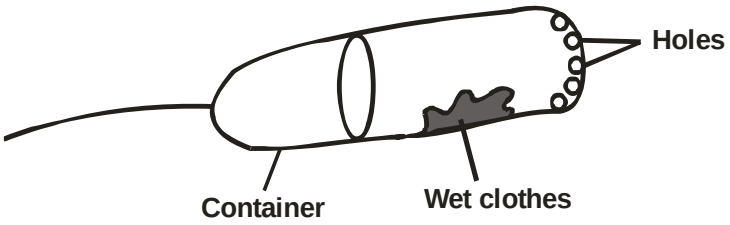


Figure 6

When the container is whirled at high speed, it is observed that the clothes dry faster.

Explain how the rotation of the container causes the clothes to dry faster. **(2 marks)**

……

……

……

……

e) State **two** factors affecting centripetal force. **(2 marks)**

……

……

……

……

16. a) Distinguish between heat capacity and specific heat capacity. **(2 marks)**

……

……

……

……

b) Figure 7 below shows a set up that may be used to determine specific heat capacity of the liquid.

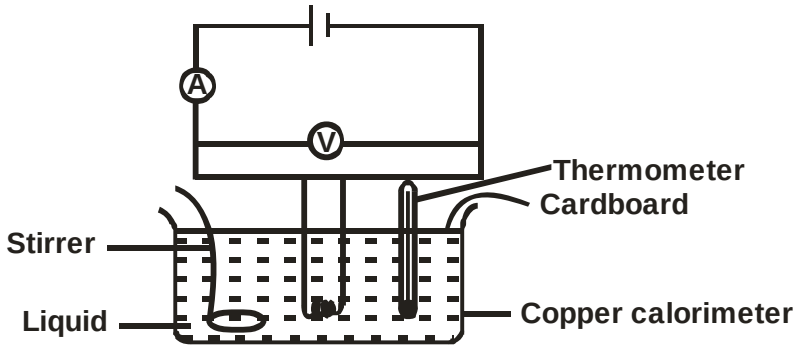


Figure 7

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

i) Outline the measurements that should be taken in the experiment. **(2 marks)**

……

……

……

……

ii) Explain how the measurements in (i) above are used to determine the specific heat capacity of the liquid. **(3 marks)**

……

……

……

……

……

……

iii) State **one** precaution one would take in modifying the setup for accurate results. **(1 mark)**

……

……

……

……

c) An electric heater rated 2kW is used to heat a 400g aluminium container filled with 1kg of water. Assuming no heat is lost to surrounding; calculate the time taken to raise the temperature of the water by 10^{o}C.
Take specific heat capacity of aluminium as $900Jkg^{-1}k^{-1}$ and that of water as $4200Jkg^{-1}k^{-1}$.
(3 marks)

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

17. a) Define the term work and state its SI units. **(2 marks)**

……

……

……

……

……

b) A crane lifts a load of 500kg through a vertical distance of 4m in 8 seconds. Determine

i) Work done by the crane. **(2 marks)**

ii) Power developed by the crane. **(2 marks)**

iii) Efficiency of the crane given that it's operated by an electric motor rated 2.8kW. **(3 marks)**

iv) State **two** factors that contribute to the efficiency being less than 100%. **(2 marks)**

……

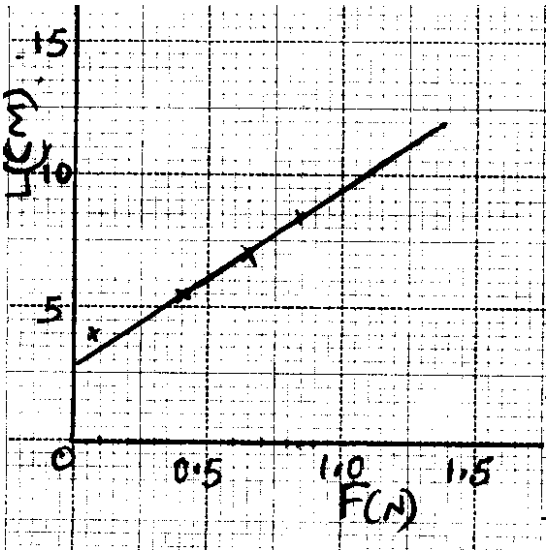
……

……

……

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

18. The graph below shows force F applied to a spring and the corresponding length h of the spring.



a) Use the graph above to find;

i) The length of the unloaded spring. **(1 mark)**

ii) The gradient of the graph. **(2 marks)**

iii) The spring constant in SI unit. **(2 marks)**

b) A body weighing 25N displaces 1.4kg of water when totally immersed in it.

Find the reading of a spring balance supporting the body in water. **(2 marks)**

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

c) When a stone is placed on water, it sinks. But when the same stone is placed on a block of wood, both are found to float. Explain this observation. **(2 marks)**

……

……

……

……

……

……

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

232/2
PHYSICS
PAPER 2(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.This paper consists of two sections**, section A** and **B**.
4.Answer **all** the questions in **section A** and **B** in the spaces provided.
5.Working of numerical questions **must** be clearly shown.
6.Marks may be given for correct working even if the answer is wrong.
7.Mathematical tables and electronic calculators **may be** used.
8.This paper consists of **12** printed pages
9.Candidates should check to ensure that all pages are printed as indicated and no questions are missing.
10. Where necessary take: - g = 10N/kg
- Plank's constant, h = 6.63×10^{-34} J.S
- Speed of light, C = 3.0×10^{8} ms^{-1}

FOR EXAMINER'S USE ONLY

Section	Question	Maximum score	Candidate's score
A	1–13	25	
B	14	11	
	15	09	
	16	14	
	17	11	
	18	10	
	Total	80	

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

SECTION A (25 MARKS)

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

1.An object 10cm tall is placed 20cm infront of a diverging lens of focal length 15cm.

Determine the nature, position and magnification of the image by calculation. **(3 marks)**

2.Explain why the image formed in a pinhole camera gets blurred when the hole is enlarged. **(1 mark)**

……

……

……

3.Figure 1 shows a cell of e.m.f 2.5V connected in series with a resistor R and a switch S.

Voltmeter, V_1 and V_2 are connected across the cell and the resistor respectively.

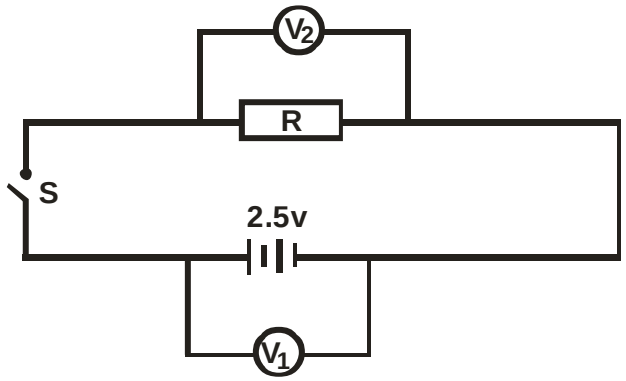


Figure 1

a) State the reading of $V_1$with S open. **(1 mark)**

b) With S closed, V_1 reads 1.6V. State the reading of V_2. **(1 mark)**

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

4.Figure 2 shows the image of an object formed by reflection in a converging mirror.

C is the centre of curvature of the mirror.

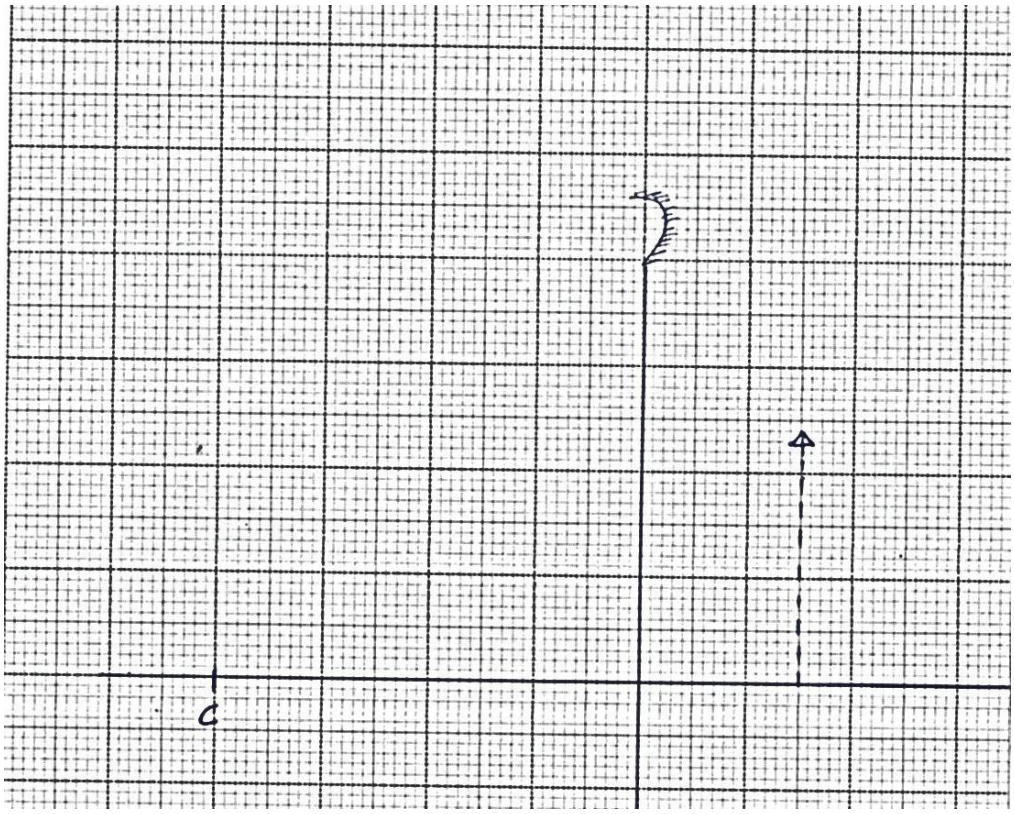


Figure 2

Complete the diagram to show:

a) How incident rays are reflected to form the image. **(2 marks)**

b) The object position. **(1 mark)**

5.The equation below represents a nuclear reaction in which two deuterium nuclei fuse to form helium and X.

$$^{2}_{1}H + {}^{2}_{1}H \longrightarrow {}^{4}_{2}He + {}^{a}_{b}X$$

a) Determine the values of a and b. (1 mark)

b) Identify X. (1 mark)

……

……

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

6.Figure 3 shows a simple transformer connected to a 24v a.c source and an a.c voltmeter.

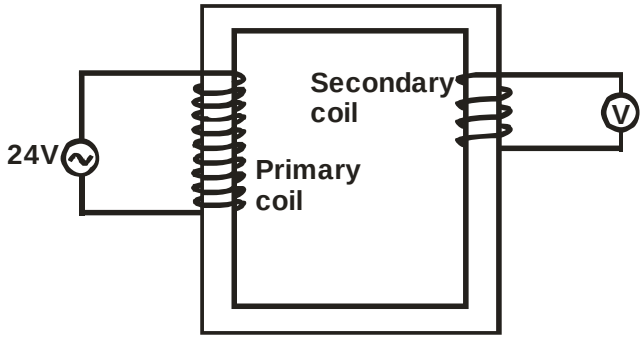


Figure 3

By counting the number of turns in each coil, determine the reading on the voltmeter. **(2 marks)**

7.In domestic wiring systems lamps in the lighting circuit are required to be in parallel and not in series. Sate **two** reasons for this requirement. **(2 marks)**

……

……

……

……

8.Figure 4 shows a narrow beam of x-rays passing between two metal plates in air.

The plates are connected in series with a switch, a cell and a milliameter.

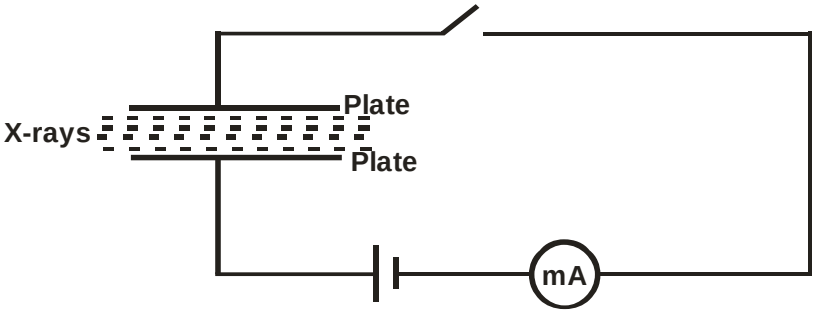


Figure 4

It is observed that when the switch is closed a current flows in the milliameter.

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

Explain this observation. **(2 marks)**

……

……

……

……

……

9. The anode of an x-ray tube becomes hot when the tube is in use. State the reason for this. **(1 mark)**

……

……

……

10. Draw a ray diagram to show how a ray of light may be totally internally reflected two times in an isosceles right-angled glass prism. (Assume that the critical angle of glass is 42°C.) **(2 marks)**

11. Given that the velocity of sound in air is $330ms^{-1}$.

Calculate the wavelength of sound produced by a turning fork rated 0.44 kHz. **(2 marks)**

12. Figure 5 below shows two bar magnets and soft iron ring placed between the magnets.

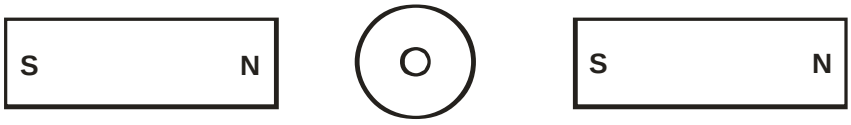


Figure 5

Complete the diagram to show the magnetic field pattern through the soft iron ring. **(1 mark)**

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

13. Determine the power of a lens whose focal length is 40cm. **(2 marks)**

SECTION B (55 MARKS)

Answer ALL questions in this section in the spaces provided.

14. a) Explain how a negatively charged electroscope gets discharged when the cap is touched with a finger using a simple diagram. **(2 marks)**

……

……

……

……

b) Figure 6 shows capacitors A and B connected in series with a battery of e.m.f 4V.

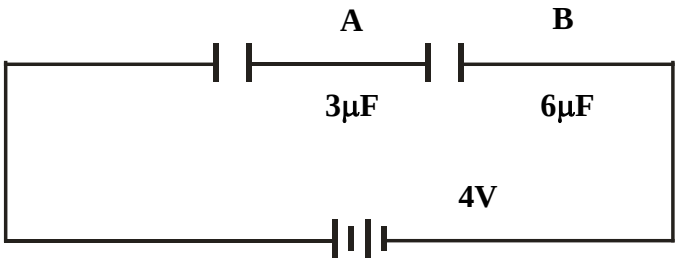


Figure 6

Determine:

i) The effective capacitance of the circuit. **(3 marks)**

ii) The quantity of charge in capacitor A. **(3 marks)**

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

iii) The quantity of charge in capacitor B. **(1 mark)**

c) Figure 7 shows an isolated positive point charge Q.



Figure 7

On the figure, sketch the electric field pattern around the charge. **(2 marks)**

15. a) Figure 8 below shows a cathode ray tube in which a beam of electrons is cast on the screen.

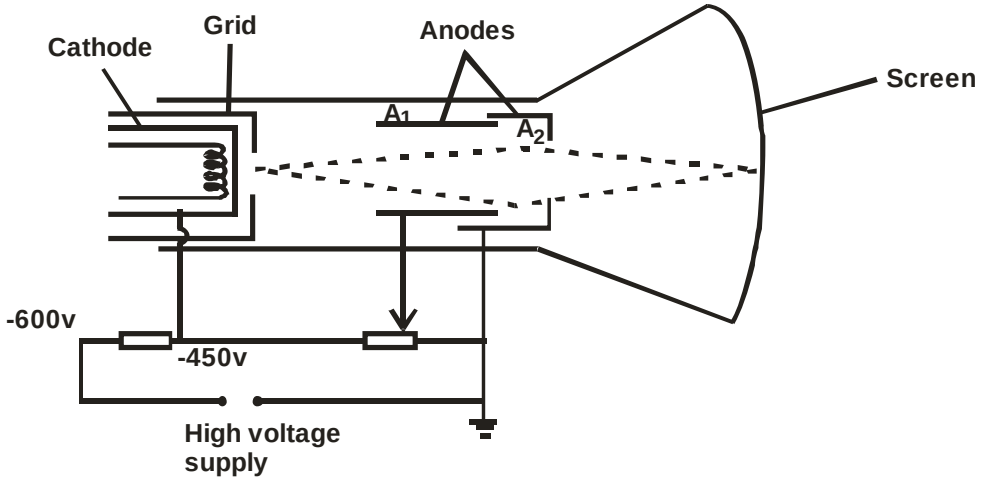


Figure 8

i) State how the electrons are produced in the tube. **(1 mark)**

……

……

……

ii) State how the electron beam is detected. **(1 mark)**

……

……

……

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

iii) State the reason for having a variable potential difference (p.d) at the:

I. grid **(1 mark)**

……

……

……

II. anodes **(1 mark)**

……

……

……

b) Figure 9 below shows the wave form of a signal applied at the y-plates of an oscilloscope whose time base is switched to the scale of 20 milliseconds per centimeter.

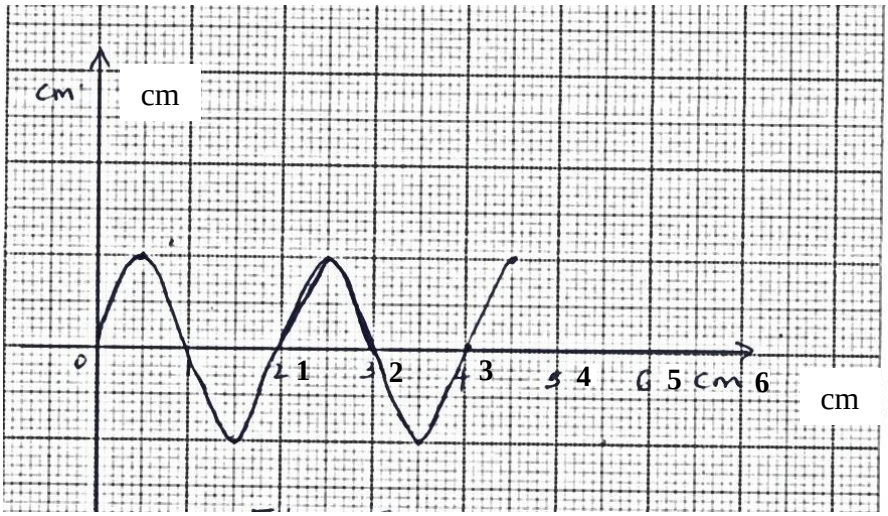


Figure 9

Determine:

i) The period of the signal. **(2 marks)**

ii) The frequency of the signal. **(3 marks)**

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

16. An X-ray tube requires an anode potential of 10^5V and a current of 0.02A to operate. Determine:

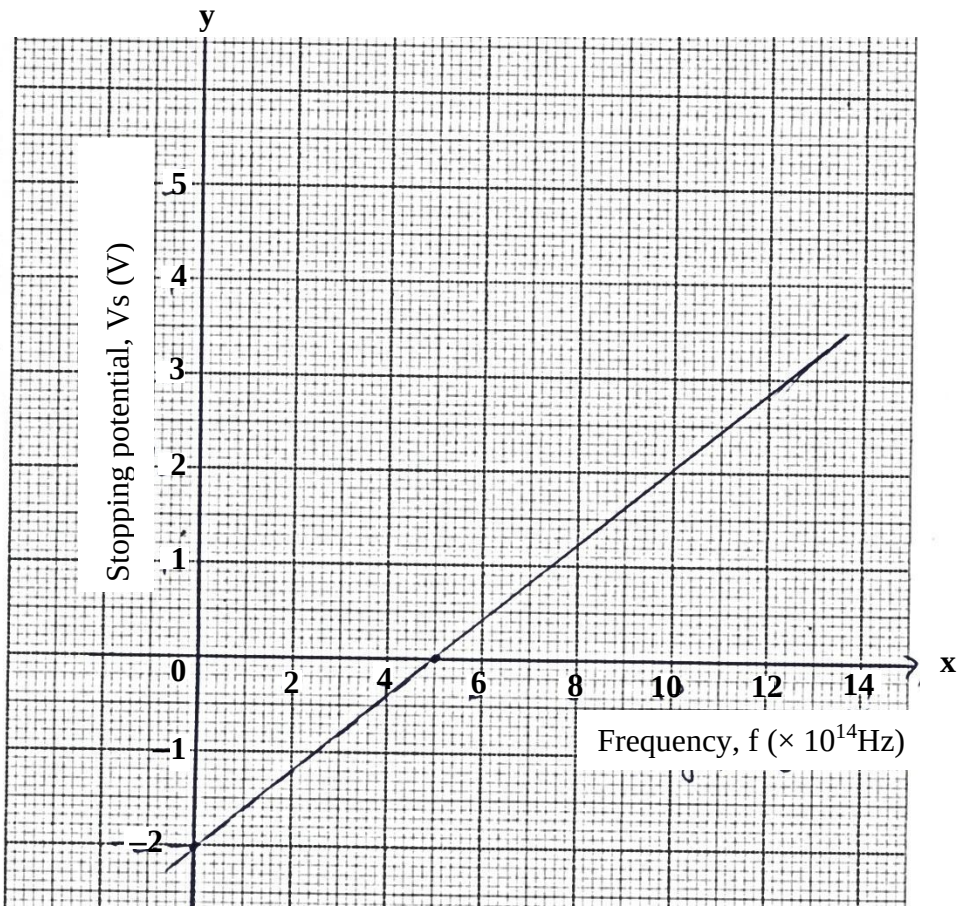
a) The number of electrons hitting the target per second. **(3 marks)**

b) The velocity with which the electrons hit the target.

($e = 1.6 \times 10^{-19}$c, $Me = 9.0 \times 10^{-31}$kg) **(2 marks)**

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

c) In an experiment to investigate the relationship between energy of radiation and stopping potential, the results were shown in a graph below. (Velocity of light = 3×10^8 ms^{-1} and e = 1.6×10^{-19}c).



From the graph determine:

i) The threshold frequency. **(1 mark)**

ii) The threshold wavelength. **(2 marks)**

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

iii) Planck's constant. **(3 marks)**

iv) The work function. **(3 marks)**

17. a) A ray of light is incident on a plane mirror as shown in figure 9 below.

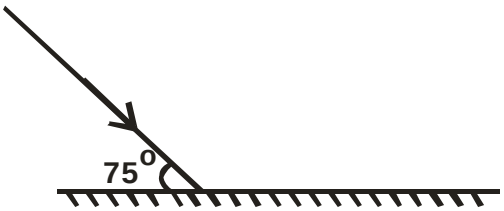


Figure 9

What is the angle of reflection? **(1 mark)**

b) The mirror is then rotated clockwise through 20^{o}. Determine:

i) The angle through which the reflected ray is turned. **(2 marks)**

ii) The angle between the incident ray and new reflected ray. **(2 marks)**

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

c) Explain **two** ways in which power loss is reduced in transmission of mains electricity.**(2 marks)**

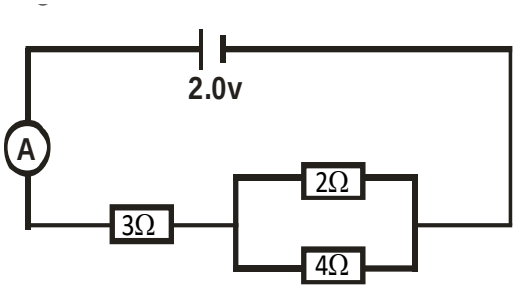
……

……

……

……

d) The diagram below shows resistors connected in a circuit diagram.

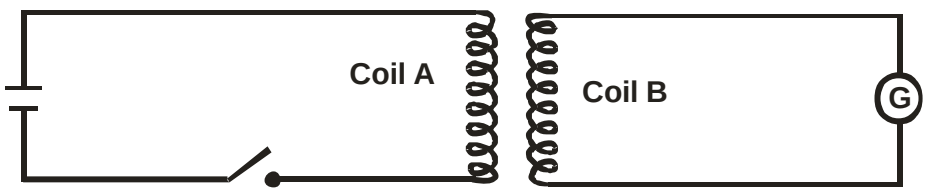


i) Determine the effective resistance of the above circuit. **(2 marks)**

ii) Determine the ammeter reading. **(2 marks)**

18. a) The figure 10 shows two coils A and B placed close to each other.

A is connected to a steady D.C supply and a switch, B is connected to a sensitive galvanometer.



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

i) The switch is now closed. State the observation made on the galvanometer. **(1 mark)**

……

……

ii) State what would be observed if the switch is then opened. **(1 mark)**

……

……

b) Define the term electromotive force (e.m.f) of a cell. **(1 mark)**

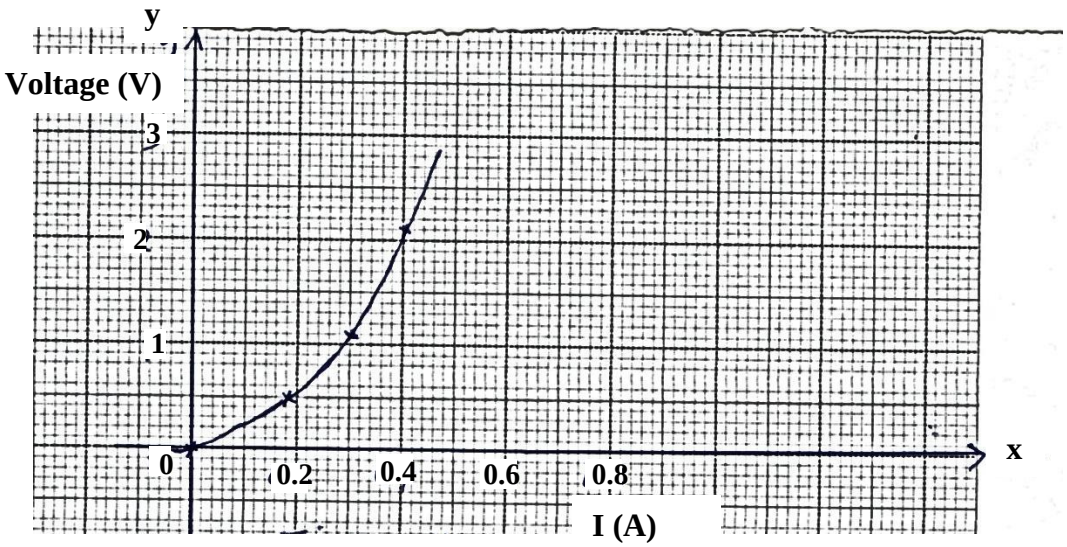
……

……

……

c) The graph in figure 11 shows how the voltage, v, varies with the current, I for a filament lamp.

Figure 11



i) From the graph, determine the resistance of the lamp when a current of 0.4A flows. **(2 marks)**

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

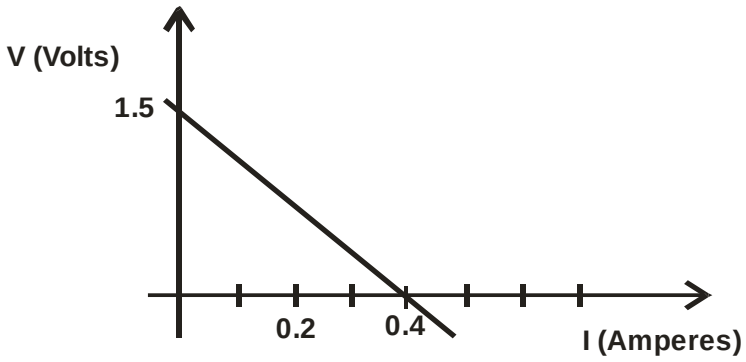
ii) State with a reason whether the device is ohmic or non-ohmic. (1 mark)

……

……

……

d) Figure12 shows the variation of voltage against current.



Given that E = V + Ir

Find from the graph,

i) The e.m.f, E of the cell. **(1 mark)**

ii) The internal resistance, r, of the cell. **(3 marks)**

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

BRILLIANT STUDENTS F4 END TERM 2 SERIES 1 EXAMS

NAME: ……

SCHOOL: ……..……

ADM NO: …….. SIGN: ……. DATE: ……

232/3
PHYSICS
PAPER 3
(PRACTICAL)
TIME: 2½ HOURS

INSTRUCTIONS TO CANDIDATES

1.Write your name and index number in the spaces provided above.
2.Sign and write the date of the examination in the spaces provided above.
3.This paper consists of **two** questions.
4.Answer **all** the questions in the spaces provided in the question paper.
5.All working must be clearly shown.
6.You are not allowed to start working with the apparatus for the first ¼ hours of the **2½** hours allowed for this paper. This time is to enable you read the question paper and make sure you have all the apparatus you may need.
7.Marks are given for a clear record of the observations actually made, for their suitability and accuracy and the use made of them.
8.Candidates are advised to record their observations as soon as they are made.
9.Mathematical tables and electronic calculators **may be** used in calculations.
10. This paper consists of **7** printed pages.
11. Candidates should check to confirm that all pages are printed as indicated and no questions are missing.

FOR OFFICIAL USE ONLY

Question 1	a(i)	(ii)	(iii)	(iv)	(v)	b(i)	(ii)		Total
Maximum score	1	6	5	2	1	2	3		
Candidate's score									

Question 2	a(iv)	b(iii)	c	d(i)	(ii)	e	h(i)	h(ii)	h(iii)	h(iv)		Total		Grand total
Maximum score	2	2	6	1	1	2	2	2	1	1				
Candidate's score														

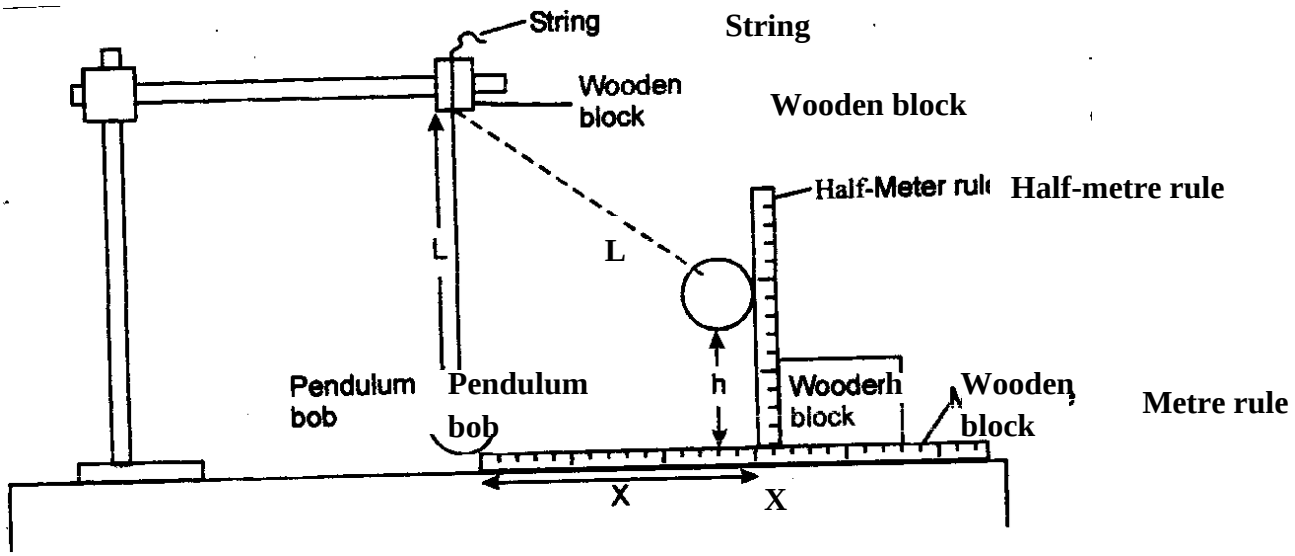
Prefer Calling Amobi Group of Examiners @ 0743 333 000 or 0706 851 439 for Marking Schemes

1.You are provided with:

- A pendulum bob with a piece of thread attached
- Two wooden blocks
- Clamp, boss and retort stand
- Metre rule
- Half metre rule attached to wooden block
- Cellotape about 10cm long
- Stop watch

Proceed as follows

a) Fix the thread between the two wooden blocks and fasten in the clamp. Adjust the thread so that the length L shown below is 50.0cm. Fix the metre rule horizontally to the bench using the cellotape provided. Adjust the clamp so that the pendulum bob is next to the end of the metre rule as shown.



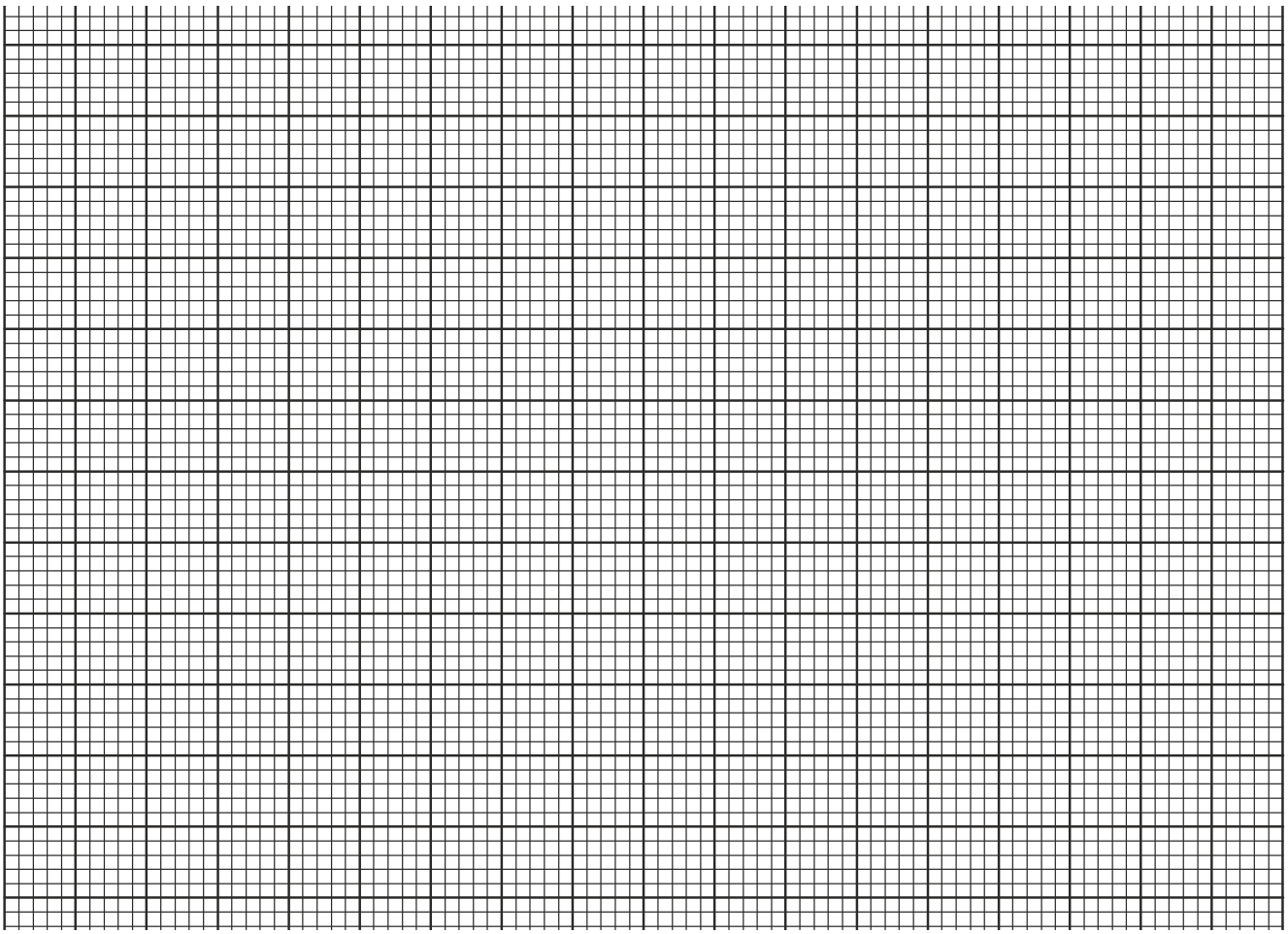
i) Displace the marble by a horizontal distance x = 20cm and measure the corresponding vertical displacement h = _____cm **(1 mark)**

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

ii) Repeat the experiment to find h for each of the following values of x : 25cm, 30cm, 35cm, 40cm and 45cm. Complete the table below. **(6 marks)**

x (cm)	h (cm)	x^2 (cm^2)	$\frac{x^2}{h}$ (cm)
20		400	
25		625	
30		900	
35		1225	
40		1600	
45		2025	

iii) Plot the graph of $\frac{x^2}{h}$ (y – axis) against h. **(5 marks)**



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

iv) Determine the slope of the graph. **(2 marks)**

v) From the graph, find the value of $\frac{x^2}{h}$ when h = 0. **(1 mark)**

b) Raise the clamp slightly without changing the length L so that the pendulum is free to swing.

i) Determine the period, T, for one oscillation by timing 20 oscillations.

Time for 20 oscillations = _____seconds **(1 mark)**

ii) Period T = _____ seconds **(1 mark)**

iii) Calculate the value of P from the following equation. **(3 marks)**

$T = 2\pi \sqrt{\frac{P}{g}}$ where $g = 10ms^{-2}$

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

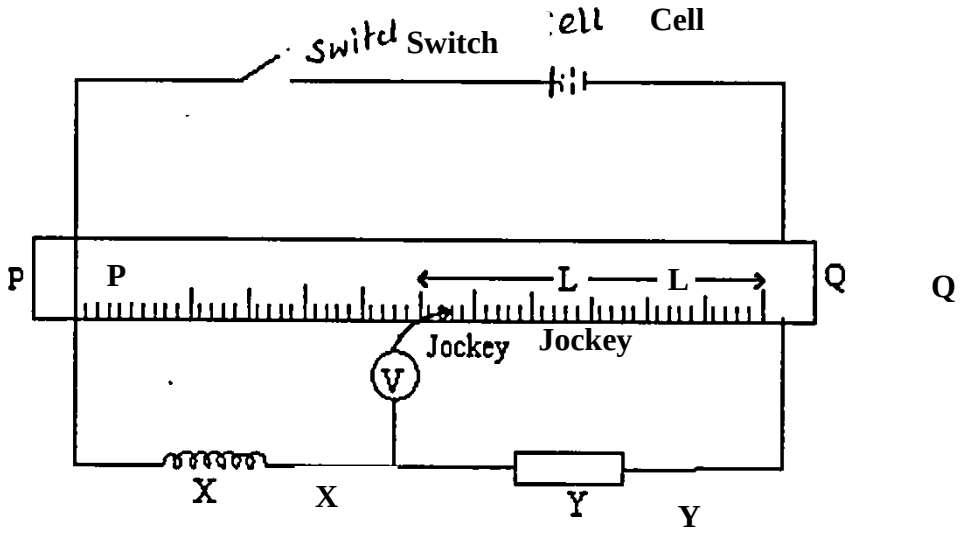
2.Part A

You are provided with:

- A Nichrome wire, 1m long, mounted on mm scale and labelled PQ at the ends.
- A Nichrome wire of length 15cm labelled X
- A 10 ohm resistor labelled Y
- A dry cell (New)
- A switch
- A voltmeter (0 – 2.5V) and
- 8 connecting wires (4 with crocodile clips)

Proceed as follows

a) i) Set up your apparatus as shown.



i) Close the switch, place the jockey at P and then at Q. (The voltmeter deflects in opposite directions)

iii) Place the contact J, 5cm from Q and record the voltmeter reading.

iv) Repeat this for values of L indicated in table 2. Record the corresponding values of V.

Length (cm)	5	15	25	35	45
V (volts)					

Table 2 **(2 marks)**

b) i) Interchange the voltmeter terminals. Place jockey at P and make sure the voltmeter pointer deflects to the right.

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

ii) Place the jockey on the wire 95cm from Q and record the voltmeter reading.

iii) Repeat this for values of L given in table 3.

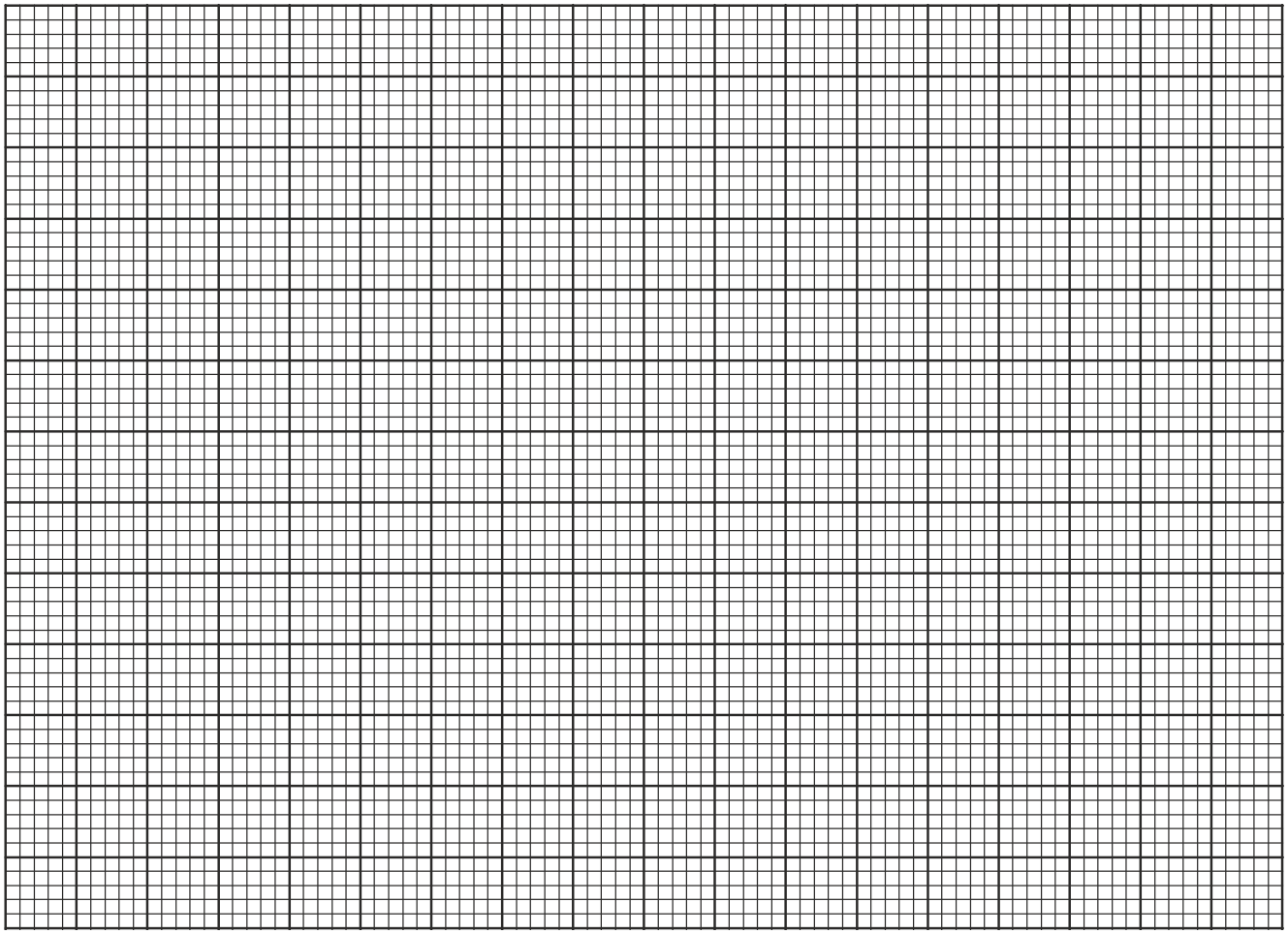
Length (cm)	95	90	85	80	75
V (volts)					

Table 3 **(2 marks)**

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

c) On the same axis plot two graphs of V(y – axis) against L using the values in table 2 and table 3.

(6 marks)



d) From your graphs determine.

i) The value of V when L = 0 **(1 mark)**

ii) The value of L where the two graphs intersect. **(1 mark)**

L = _____

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

e) Work out the value of the unknown resistance of wire X, R_X using the expression.

Where R_y is the resistance of resistor **y**. **(2 marks)**

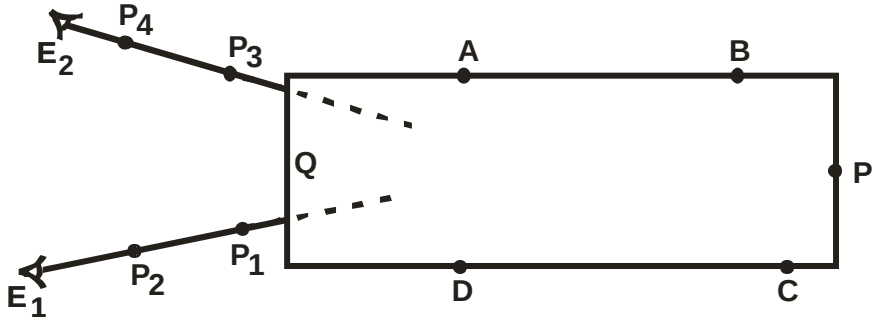
$$\frac{R_X}{R_Y} = \frac{L}{100-L}$$

Part B

f) You are provided with the apparatus below.

- Five optical pins and four office pins
- A plain white A4 piece of paper
- Soft board
- Glass slab

Place the glass slab on the white piece of paper and trace its outline. Secure it in place (In its position) by the office pins A, B, C, D as shown in the diagram below.



(Pin)

g) i) Fix the pin P firmly at the end of the slab and with your eye E_1 at the opposite of the slab fix pin P_1 and then P_2 in line with the image I of the pin (See diagram)

Remove the pins P_1 and P_2 and mark their positions P_1 and P_2 respectively.

ii) Similarly fix P_3 and then P_4 so that they are in line with the image I of P. Again remove the pins P_3 and P_4 and mark their positions respectively. Remove the glass slab and pins ABCD

h) Join P_1P_2 produced with the tracing of the slab outline. Join P_3P_4 produced to intersect line P_1P_2. Label this point of intersection I, the supposed position of the image of pin P.

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

i) Submit the plain paper used in the experiment. **(2 marks)**

ii) Measure the lengths QP and QI

QP **(1 mark)**

QI **(1 mark)**

iii) Determine the ratio $\frac{QP}{QI}$ **(1 mark)**

iv) What is the significance of the ratio in (II) above? **(1 mark)**

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 :



