BRILLIANT STUDENTS PRE-MOCK 4 EXAMS

ALL SUBJECTS TESTED



BRILLIANT STUDENTS PRE-MOCK 4 EXAMS

Prefer Calling Sir Obiero Amos
@ 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.

ACTED SET BOOKS VIDEOS.

Details Inscribed in each. Delivered Via Telegram.

WhatsApp/Sms/Call Sir Obiero Amos

0706 851 439



NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

443/1

AGRICULTURE

Paper 1

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES:

- *This paper contains **three** sections A, B and C*
- *Answer **ALL** the questions in section A amd B*
- *Answer any **Two** questions from section C*
- *All answers should be written in the spaces provided.*

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAX SCORE	CANDIDATES SCORE
A		30	
B		20	
		20	
		20	
TOTAL		90	

This paper consists of 8 printed pages. Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION A: (30MKS)

1. State four advantages of using farm yard manure. (2mks)

……
……
……
……
……
……

2. State four merits of minimum tillage in crop production. (2mks)

……
……
……
……
……
……

3. Mention four practices carried out to maintain grass pastures. (2mks)

……
……
……
……
……
……

4. State four disadvantages of nomadic pastoralism. (2mks)

……
……
……
……
……
……

5. Mention four cultural methods of used control in crop production. (2mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

……

……

……

6. State four ways of overcoming extremes of temperature in crop production. (2mks)

……

……

……

……

……

……

7. List five precautions observed in harvesting tea to ensure high quality produce. (21/2mks)

……

……

……

……

……

……

8. List three ways in which primary cultivation can be achieved. (11/2mks)

……

……

……

……

……

9. An agriculture student was advised to apply complete fertilizer 40:30:10 in a (20x10) M plot and at the rate of 40kg per hectare.

(i) Calculate the percentage of P_2O_5 in the complete fertilizer. (2mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(ii) Calculate the amount of fertilizer the student would require for the plot. (2mks)

10. State four divisions of livestock farming. (2mks)

……

……

……

……

……

……

11. List four methods commonly used for applying nitrogenous fertilizers. (2mks)

……

……

……

……

……

……

12. Name four factors influencing soil formation. (2mks)

……

……

……

……

……

13. A farmer owns one hectare on which he can grow maize whose yield is 15 bags/hectare but has chosen to grow sorghum whose yield is 20 bags/hectare. If maize is sold at shs 1200 per bag while sorghum is sold at shs 700 per bag. Calculate the opportunity cost. (2mks)

14. State four characteristics of plants used for preparation of green manure. (2mks)

……

……

……

……

……

……

SECTION B (20MKS)

15. Students in an agriculture class set out to investigate the constituents of soil sample from school. They carried out a series of tests on various portions of the sample. They then prepared a table a shows below:

Description	Quantity
Mass of an empty evaporating disk	10g
Fresh soil on evaporating disk	35g
Mass of dried soil at 105oC on evaporating disk	28g
Vol. of water in the tin	250cm^3
Vol. of water and soil after stirring	410cm^3
Mass of empty silica disk	15g
Mass of silica disk and soil after ignition	45g
Mass of silica disk and dried soil before ignition	65g
Volume of water and soil before stirring	500cm^3

a) Calculate the percentage of soil water in the sample. (1mk)

b) Why was soil heated at 105^oC? (1mk)

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

c) Calculate the percentage of soil air in the sample? (1mk)

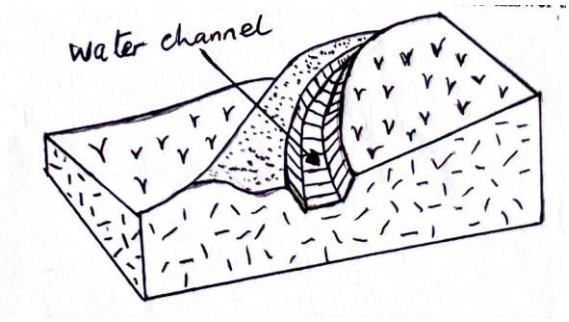
d) Calculate the percentage of soil organic matter in the sample. (1mk)

e) Name one other soil constituent not tested above. (1mk)

……

……

16. The diagram below shows a construction on farm. Use it to answer the questions that follow.



a) Identify the above structure. (1mk)

……

……

b) State four areas where water in the channel is directed to: (4mks)

……

……

……

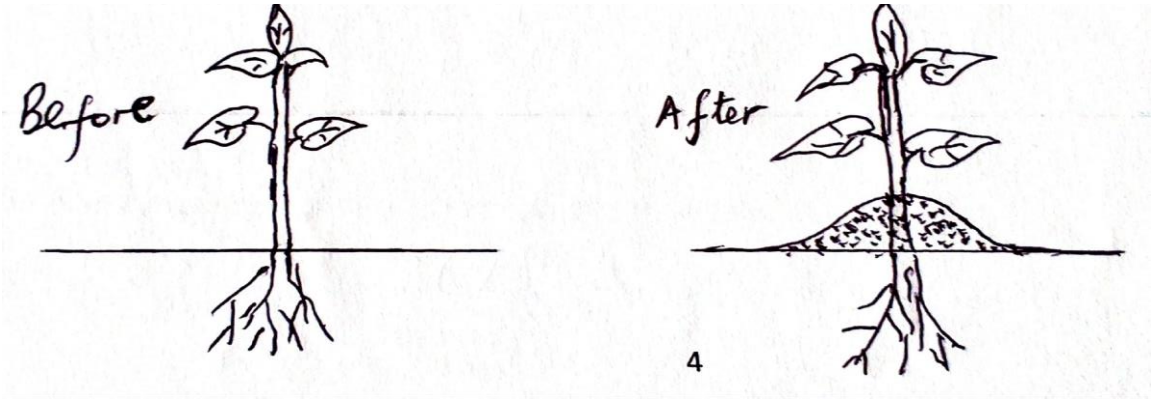
……

……

……

……

17. The diagram below shows a field practice in crop production.



a) Identify the practice. (1mk)

……

……

b) State two advantages of the practice named in (a) above to Irish potatoes. (2mks)

……

……

……

……

c) Name two other crops that require the above practice. (2mks)

……

……

……

……

18. Use the diagram below to answer the questions.



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(a) Identify the sorghum variety shown above. (1mk)

……

……

(b) State two bird pests that commonly attack the crop. (2mks)

……

……

……

……

(c) Name two other varieties commonly grown by farmers. (2mks)

……

……

……

……

SECTION C (40MKS)

19. (a) Outline the procedure for soil sampling. (8mks)

(b) Give five reasons for ridging sweet potatoes. (5mks)

© Outline seven properties of nitrogenous fertilizers. (7mks)

20. (a) Discuss five benefits of weeds to the farmer. (10mks)

(b) Discuss five importance of draining a waterlogged area. (10mks)

21. (a) Discuss five factors influencing crop rotation. (10mks)

(b) Discuss five government policies that regulate production, marketing and distribution of agricultural products. (10mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

AGRICULTURE PAPER 2

2HOURS

INSTRUCTIONS TO CANDIDATES

[a]Write your name and index number in the spaces provided at the top of this page .

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

[c]This paper consists of three sections A ,B ,and C .

[d]Answer all the questions in sections A and B .Answer two questions in section C

[e]Answers should be written in the spaces provided on the question paper.

FOR EXAMINERS USE ONLY .

SECTION	QUESTIONS	MAX.SCORE	CANDIDATES SCORE
A	1---24	30	
B	25—29	20	
C	30 ,31 ,32	20	
	30 ,31 ,32	20	
TOTAL SCORE		90	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION A [30 MARKS]

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

1.Name a breed of goats that has long hair .[0.5mks.]

……

……..

2.Give three factors that should be considered when sitting a bee-hive in the farm[1.5marks]

……

……

……..

……

……..

3.State four management practices that would ensure maximum harvest of fish in a fish pond [2marks]

……

……

……..

……

……

……

4.Give two reasons why walls of dairy sheds should be white –washed instead of painted with water or oil paint .[1mark]

……

……

……

……..

5.What is the intermediate host for liver fluke .[0.5mks.]

……

……..

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

6.What is the duration of estrus cycle in a cow ? [0.5mks.]

……

……

7.If a dairy cow was noticed to be showing first signs of heat at 6.00am.What time should she be inseminated ? [1mark]

……

……

8 Give four factors that determine the amount of water required by an animal .[2marks]

……

……

……

……

……

……

9.Name three holding tools and equipment .[1.5marks]

……

……

……

……

……

10.Give three functions of a combination squire . [1.5marks]

……

……

……

……

……

11.State three functions of the differential in a tractors power transmission.[1.5mks]

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

12.State three factors that contribute to a high working efficiency of a disc harrow.[1.5marks]

……

……

……

……

……

13.List three products obtained from dromedary camel.[1.5marks]

……

……

……

……

……

14.If the records showed that a rabbit doe was served on 27th September2014 what date did she give birth/kindle? [0.5marks]

……

……

15.Give two signs that would show that a rabbit doe is about to parturate .[1mk.]

……

……

……

……

16.Under what conditions would it be necessary to use a file to smoothen a piece of wood instead of using a smoothing plane ?[0.5marks]

……

……

17.What is the use of a plumb-bob ?[0.5marks]

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

18.State four characteristics of a corriedale sheep breed.[2marks]

……

……

……

……

……

……

……

19.State any two disadvantages that may arise from inbreeding in livestock production .[1mark]

……

……

……

……

20.Name four cattle diseases caused by bacteria .[2marks]

……

……

……

……

……

21.Name any two methods recommended for identifying goats .[1mark]

……

……

……

……

22.State three field conditions under which a disc plough should be used instead of a mould board plough .[1.5marks]

……

……

……

……

23.Give three symptoms of milk fever in dairy cattle .[1.5marks]

……

……

……

……

……

24.Give four reasons for steaming –up dairy animals.[2marks]

……

……

……

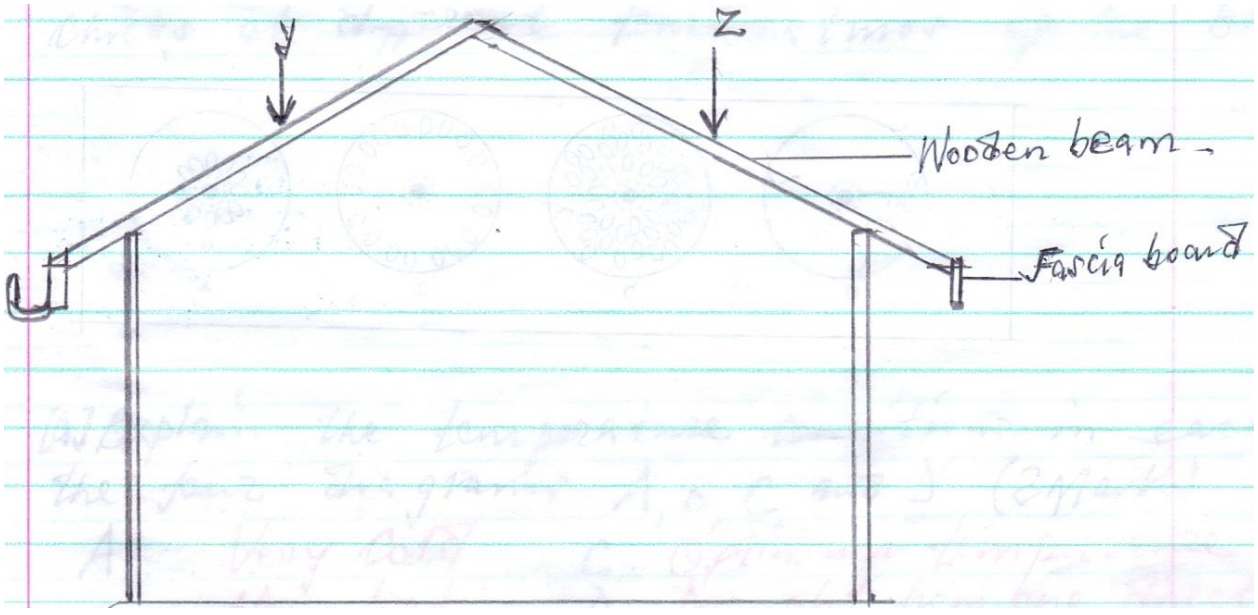
……

……

SECTION B [20MARKS]

Answer all questions in this section in the spaces provided .

25.The drawing below shows the cross-section of a house under construction. Study it carefully and answer questions that follow .



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

[a]Assuming that the wooden beams are strong enough to hold the roof load .What is the most likely thing to happen when the roof load exerted presses at point Y and Z .[1mark]

……

……

……

[b]On the diagram provided draw and label two constructional features you would add to this structure in order to make it more efficient.[2marks]

……

……

……

……

[c]State two importance of the fascia board in the farm building.[2marks]

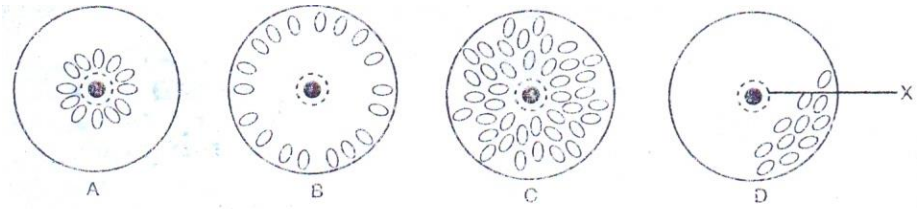
……

……

……

……

26.The following illustration show the behavior of chicks at different temperatures of the brooder.



[a]Explain the temperature conditions in each of the four diagrams A ,B ,C ,and D.[2marks]

A ……

B ……

C ……

D ……

[b]Give one method of assessing temperature in the brooder.[1mark]

……

……

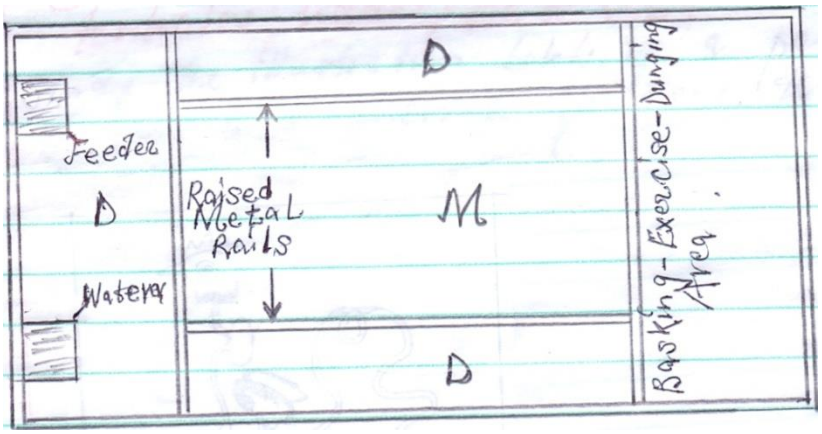
[c]Name two other behavioral observations on chicks when temperature is very high in the brooder.[2marks]

……

……

……

27.The illustration below shows a pig far rowing pen .Study it and answer questions that follow.



[a]What is the use of the raised metal rails.[1mark]

……

……

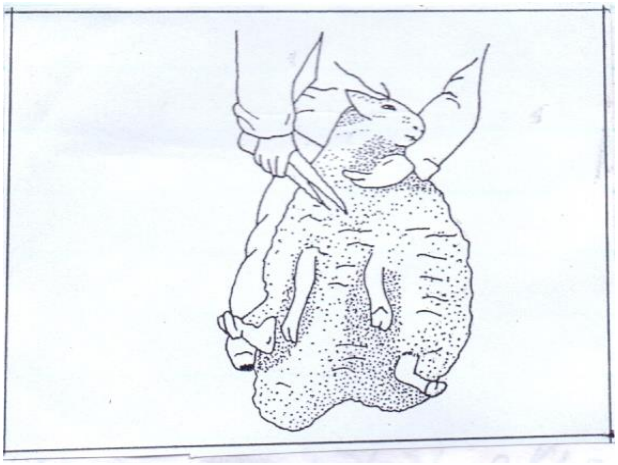
[b]Give two uses for the parts labeled D[2marks]

……

……

……

28.Below is an illustration representing a practice carried out in sheep. Study it and answer questions that follow.



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

[a]Identify the practice illustrated above.[1mark]

……

……

[b]State three precautions taken when carrying out the above practice.[3marks]

……

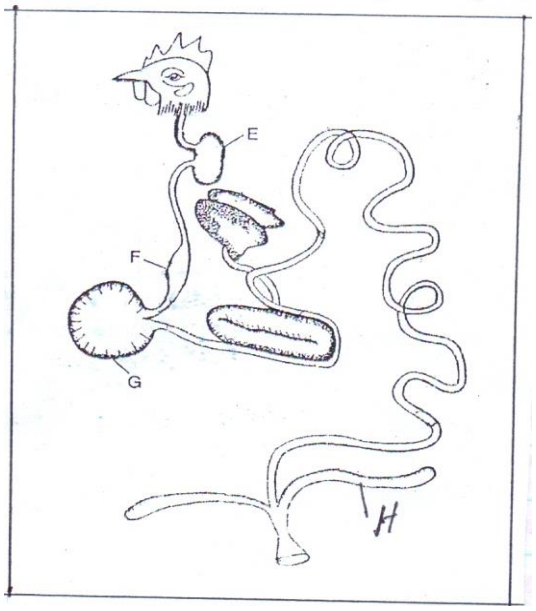
……

……

……

……

29.Study the illustration below of a poultry digestive system and answer questions that follow.



[a]Give two functions of part E.[2marks]

……

……

……

……

[b]State one function of part H.[1mark]

……

……

……

SECTION C [40MARKS]

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

30.[a]Describe ten factors that are considered during the selection of a breeding stock.[10marks]

[b]Describe five effects of parasites on livestock.[5marks]

[c]Describe the mechanical control measures of ticks.[5marks]

31.[a]Outline five reasons why bees swarm away.[5marks]

[b]Discuss the preparations and practices that should be carried out on a pregnant sow 10 days before she far rows.[5marks]

[c] Describe Gumboro disease under the following sub headings.

Causal organism [1mark]

Livestock attacked [1mark]

Symptoms of the disease [6marks]

Control measures [2marks]

32.[a]Explain five advantages of animal draught power.[5marks]

[b]Discuss the importance of lubrication system in a tractor.[4marks]

[c]Explain six factors considered when selecting construction materials for farm structures .[6marks]

[d]Give five qualities of a good calf pen.[5marks]

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

Kenya Certificate of Secondary Education

BIOLOGY

Paper 1

TIME: 2 Hours

Instructions to Candidates

- *Write your name, admission number, class and signature in the spaces provided at the top of the page.*
- *Answer **all** the questions in the spaces provided in this paper.*

For Examiners Use Only

SECTION A	MAXIMUM SCORE	CANDIDATE SCORE
Question		
1 – 25	80	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1.(a) What is a teat pipette used for in Biology Laboratory Lesson? (1 mrk)

……

……

……

(b) Give the name of a reagent that is used to test substances and at the same time used as a stain in the laboratory. (1mrk)

……

……

……

2. A name of a certain garden plant is Duranta Repens

i.What is the meaning of repens? (1mrk)

……

……

……

ii.Identify one mistake shown by the written name. (1 mrk)

……

……

……

*iii.*Distinguish between a *genus* and a *Species* as Taxa used during classification of the Organism. (2mrks)

……

……

……

……

3. A form one student observing Onion epidermal cells under the low power objective counted 5 cells on a field of view measuring 5mm

(a) Estimate the size of one cell. (1 mrk)

(b) If the eye piece magnification used was × 10 and that of the objective lens was × 10. What was the magnification of the microscope? Show your working. (2 mrks)

(c) Estimate by approximation the Number of cells that would be observed if the objective lens magnification was changed to x 40 (1mrk)

(d) What is the role of centriole in animal cells? (1mrk)

……

……

……

4. Explain the following statements:

i. The action of ptyalin stops at the stomach. (1mrk)

……

……

……

ii. The small intestines contain Villi. (1mrk)

……

……

……

iii. High temperatures stop enzyme action. (1 mrk)

……

……

……

iv. Lack of magnesium leads to yellowing of leaves in plants. (2 mrks)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

v.The thyroid glands swell, in some individuals (1 mrk)

……

……

……

5. Name one cofactor and one co-enzyme required for a blood clotting process to be normal.

a) Co-factor - …… (1mrk)

b) co-enzyme- …… (1mrk)

6. What is counter current Mechanism in a Tilapia fish? (2mrks)

……

……

……

……

7. State three adaptations of the Red blood cell to its function. (3 mrks)

……

……

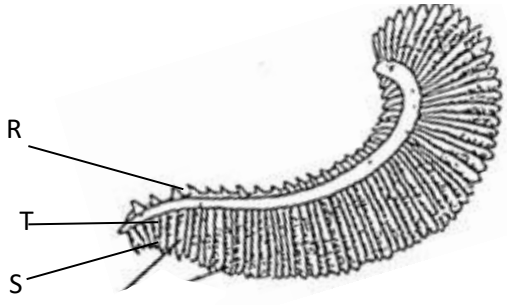
……

……

……

……

8. The diagram below represents an organ from a finned bony fish. Study it and answer the question that follows



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

i.Identify the organ. (1mrk)

……

……

ii.State three adaptations of the part labeled **S** to its functions. (3 mrks)

……

……

……

……

……

……

9. (a) State the importance of pleural fluid in the lung of a mammal. (2mrks)

……

……

……

……

(b) What function does the cilia of the trachea play during gaseous exchange in a mammal? (1 mrk)

……

……

……

……

(c) What significance does mucus offer a mammal during gaseous exchange? (1 mrk)

……

……

……

10. The equation below represents a process that take place in plants and animals

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

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(a) Name the process. (1 mrk)

……

……

(b) State two requirements necessary for the process (a) above to process at maximum rate. (2 mrks)

……

……

……

……

(a) What is the role of Cristae in the process above? (1 mrk)

……

……

……

(b) In which part of the cell does glycolysis and Krebs cycle occur? (2 mrks)

Gycolysis -……

Krebs cycle ……

11. State the role of each of the following components of the skin. (2 mrks)

Sebum

……

……

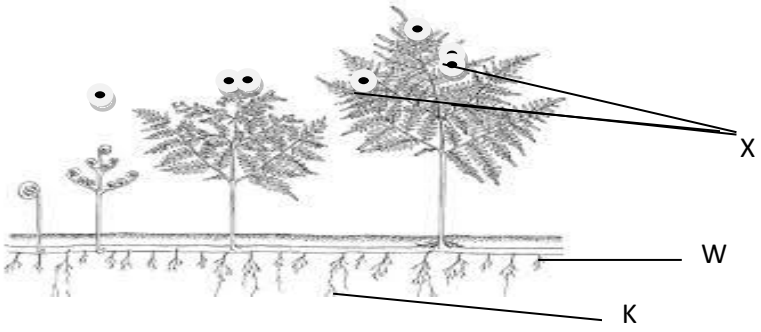
Melanin

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

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



i. Name parts. (2mrks)

W **……**

K **……..**

ii. Name the division of Kingdom plantae the diagram represent. (1 mrk)

……

……

Iii. Give the identity of **X** and state its function (2 mks)

Identify of X

……

……

Function

……

……

……

13. State three Biotic factors in an ecosystem. (3 mks)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

14. Name two specific bacteria involved in denitrification process in a Nitrogen cycle. (2 mrks)

……

……

……

……

15. Define:

(a) Biosphere (1 mrk)

……

……

……

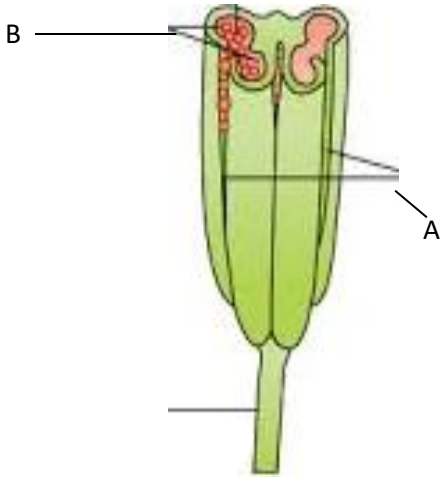
(b) Ecological Niche (1 mrk)

……

……

……

16. The diagram below represents a male reproductive transverse section structure in plant



i. Name structures (2mrks)

A - ……..

B- ……..

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

ii. Name the type of cell division taking place in structure A (1 mrk)

……

……

iii. State Two significance of the named type of cell division in (ii) above in Sexual Reproduction. (2mrks)

……

……

……

……

17. State Three applications of Genetic in our day to day life. (3 mrks)

……

……

……

……

……

18. Give the full Name of the abbreviation. DNA (1 mrk)

……

……

19. State the Three theories advanced to support the origin of life. (3 mrks)

……

……

……

……

……

20. Name three types of Fossils (3 mrks)

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

21. Name a chemical substance required for transmission of impulse in a synapse. (1 mrk)

……

……

22. State the functions of the following structures in neuron.

i.Node of Ranvier (1 mrk)

……

……

ii.Myelin sheath (1 mrk)

……

……

23. Name the chemical substances involved in thickening of the following support tissues in plants

i.…… (1mrk)

ii.…… (1mrk)

24. State the Number of the following vertebra in a mammal

i.Cervical Vertebrae (1mrk)

……

……

ii.Lumbar Vertebrae (1mrk)

……

……

25. State three functions of Obturator Foramen in the pelvic girdle in a mammal.(3mrks)

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

26. What is a

(i) tendon? (1mrk)

……

……

(ii) ligament? (1 mrk)

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

231/2

BIOLOGY PAPER 2

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:-

- Write your **name** and **adm number** in the spaces provided above.
- This paper consists of **two** sections; **A** and **B**.
- Answer **all** the questions in Section **A** in the spaces provided.
- In section **B**, answer question **6** (**compulsory**) and either question **7** or **8** in the spaces provided after question 8.

For Examiner's Use Only:

Section	Question	Maximum score	Candidates score
A	1 2 3 4 5	8 8 8 8 8	
B	6 7 or 8	20 20 20	
TOTAL SCORE		**80**	

This paper consists of 10 printed pages. Candidates should check to ascertain that all the pages are printed as indicated and that no questions are missing.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION A (40 Marks)

Answer all questions in this section in the spaces provided.

1. In human beings, a **downward pointed frontal hairline** ("windows peak") is a heritable trait. A person with windows peak always has at least one parent who has this trait; where as persons with **frontal hairline** may occur in families in which one or even both parents have windows peak. Using **W** and **w** to symbolize genes for this trait

(a) Determine the F1 generation if a homozygous windows peak male parent is married to a homozygous frontal hairlined female parent (4mks)

(b) State two causes of variations (1mk)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

c) Name two sex linked genetic disorders affecting human females and males (2mks)

……

……

……

……

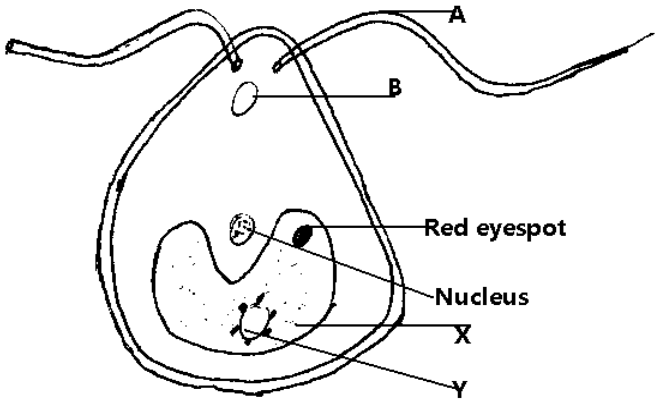
(d) What is genome

……

……

……

2. The diagram below shows an organism obtained from an aquatic ecosystem



(a) **State** the kingdom in which the organism belongs. (1mk)

……

……

(b) **Name** the parts labeled (1mk)

B

……

Y (1mk)

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(c) **State** the functions of the following parts

A (1mk)

……

……

X (1mk)

……

……

Z (1mk)

……

……

(d)Explain briefly why the organism is described as eukaryotic (2mk)

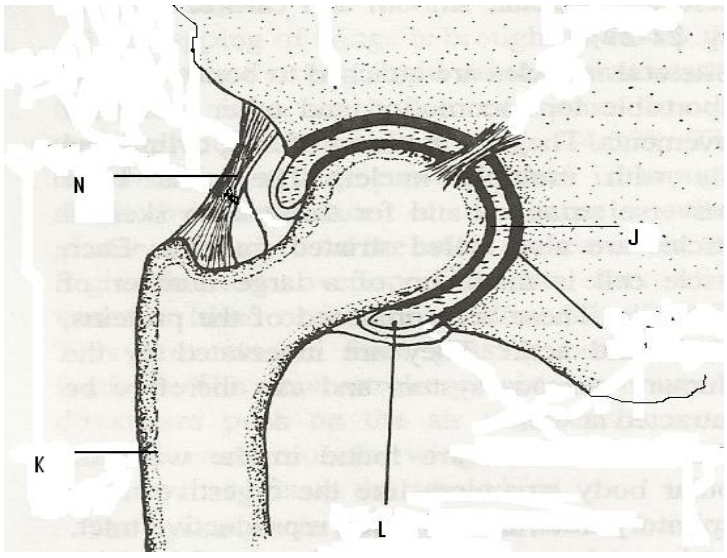
……

……

……

……

3a) The diagram below shows some of the features of a synovial joint. Study the diagram carefully and answer the questions that follow.



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(a) Name the type of synovial joint. (1 mark)

……

……

(b) Name the parts labeled J, and L (2 marks)

J ……..

L ……..

(c) State **two** roles of the part labeled L. (2 marks)

……

……

……

(d) Suggest **one** advantage of this type of joint. (1 mark)

……

……

b) State how the following tissues are adapted to provide mechanical support in plants (2mks)

i) Parenchyma

……

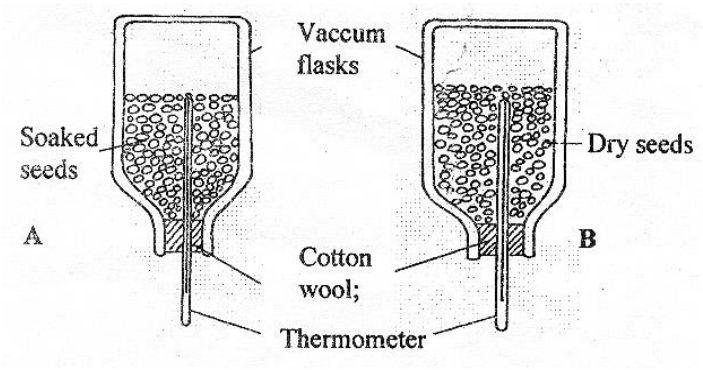
……

ii) Collenchyma

……

……

4. A student set up an experiment using soaked and dry seeds as shown below



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

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

.....

.....

.....

b) State the observations made in each of the flask after 24 hours (2mks)

.....

.....

.....

.....

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

.....

.....

.....

.....

d) Suggest why vacuum flasks were used in this experiment (1mk)

.....

.....

.....

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

.....

.....

.....

f) Why should the seeds be washed with antiseptic/10% formalin? (1mk)

.....

.....

.....

5 a) Explain how the following meristematic tissues contribute to growth of higher plants

i) Vascular cambium (2mks)

.....

.....

.....

ii) Cork Cambium (2mks)

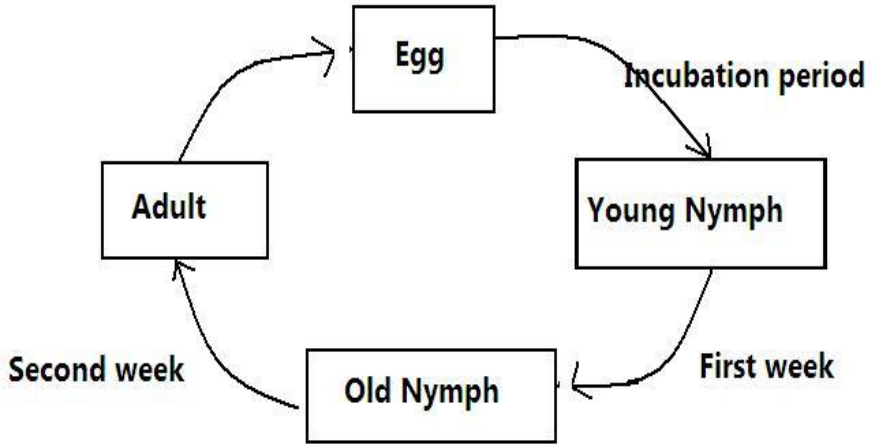
Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

b) The diagram below shows a life cycle of a cockroach



a) Name the hormone that would be at high concentration during.

(i) First week (1mk)

……

(ii) Second week (1mk)

……

b) Name the structure that produces hormone in a (ii) above (1mk)

……

……

c) Name the series of stages through which the nymph undergoes to reach adult stage (1mks)

……

……

SECTION B (40 Marks)

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

6. The menstrual cycle is a sequence of events repeated monthly in the female production system. The table below shows the concentration of oestrogen and progesterone hormones and body temperatures of female against time.

Time in days	Oestrogen mg/100cı blood	Progesterone mg/10(of blood	Temperature in 0^{o}c
1	20	0	36.4
2	20.5	0	36.6
3	25	0	36.7
4	27.5	0	36.8
5	30	0	36.7
6	32.5	0	36.6
7	35	0	36.8
8	40	0	36.7
9	48	0	36.6
10	56	0	36.8
11	64	0	36.7
12	72	0	36.6
13	80	0	36.4
14	170	20	36.3
15	140	50	36.6
16	80	80	37.0
17	70	130	37.2
18	65	170	37.0
19	60	160	37.1
20	65	150	37.15
21	130	130	37.2
22	140	110	37.1
23	130	90	37.0
24	100	70	37.1
25	80	50	37.2
26	60	20	37.0
27	20	0	36.4

a). Using the same axis draw graphs of oestrogen and progesterone against time/days (8mks)

PROVIDE A GRAPH PAPER

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

b) State the possible event taking place in the uterus during the first week? (1 mark)

……

……

……

c) State the events taking place in the ovary between day 1 and day 13. (2 marks)

……

……

……

d) Account for the sudden increase in the progesterone concentration between day 14 and day18. (2 marks)

……

……

……

e) Account for the change in temperature between day 14 and 17. (1 mark)

……

……

……

f) Account for the change of the curve of progesterone between day 19 and 27. (2marks)

……

……

……

……

a) State the function of the following.

(i) Ovary (1mark)

……

……

(ii) Progesterone (1 mark)

……

……

(iii) Oestrogen (1 mark)

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

7 a) Describe how the following evidences support the theory of organic evolution: geographical distribution, fossil records and comparative anatomy (10mks)

b) Explain tropic responses in plants and their survival values (10mks)

8 a) Describe the structural adaptations of mammalian heart to its Functions (10mks)

b) Explain the role of osmosis in organisms (10mks)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

231/3

BIOLOGY

PAPER 3 (PRACTICAL)

TIME: $1^3/_4$ HOURS

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided.
2. You are required to spend the first 15 minutes of $1^3/_4$ hours allowed for this paper reading the whole paper carefully before commencing your work.
3. Answers must be written in the spaces provided in the question paper.
4. Additional pages should not be inserted candidates may be panelized for recording irrelevant information and for incorrect spellings especially of technical terms.

FOR EXAMINERS USE ONLY.

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	16	
2	10	
3	14	
SCORE	**40**	

This paper consists of 7printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and that no questions are missing.

1. You are provided with liquids labelled **Q1** and **Q2.** Spare about 10ml of the liquids for part (a) of this question. Using a piece of thread, tie tightly one end of the visking (dialysis) tubing. Open the other end of the tubing and half fill it with liquid **Q1**. Tightly tie this end. **Ensure there is no leakage in both ends**. Immerse the tubing in a beaker containing liquid **Q2**. Leave the set up for at least 30 minutes.

a) Using iodine and Benedict's solution provided; test for the food substance in liquids **Q1** and **Q2**. Record the procedure, observation and conclusion in the table below. (6mks)

LIQUID	**PROCEDURE**	**OBSERVATION**	**CONCLUSION**
A			
B			

After at least 30 minutes remove the visking tubing from the beaker and wash the outside of the tubing thoroughly to remove traces of liquid **Q2**.

b) Using the same reagents, test the food substance in liquid Q1 in the visking tubing.
Record your observations and conclusion in the table below. (2mks)

Liquid	Observation	Conclusion
Q1		

c) (i) **Name** the physiological process being demonstrated by this experiment. (1mk)

……

ii) **Name two** parts of the human body where the process named in (c) (i) above takes place. (2mks)

……

……

……

……

d) **Account** for the results obtained after carrying a second food test on liquid Q1. (2 mks)

……

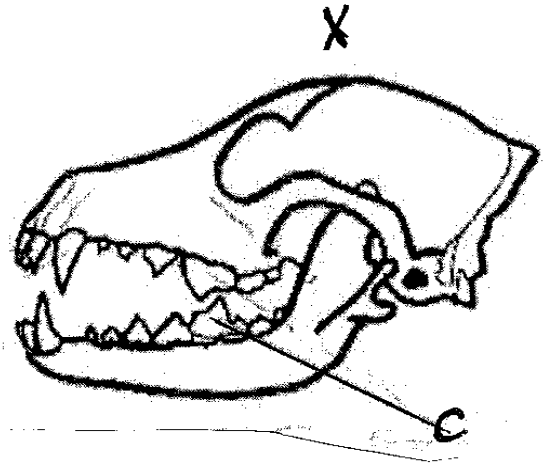
……

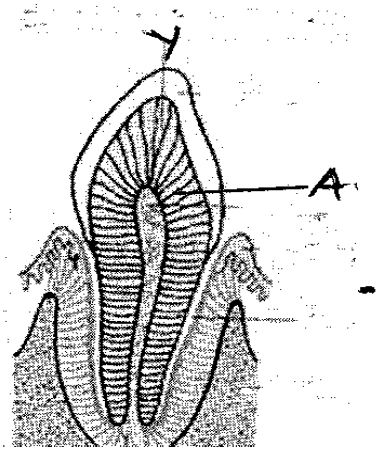
……

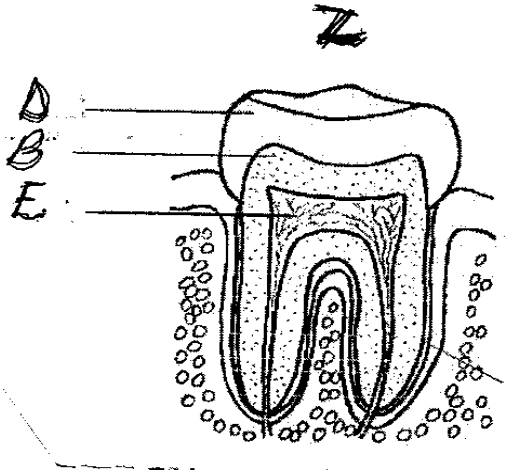
……

……

2. You are provided with diagrams of specimens taken from a mammal. Study them carefully and answer the questions that follow.







(a) Identify the diagrams labeled below. (3 marks)

X ……

Y ……

Z ……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(b) State the diet of the animal from which diagram x was taken and give a reason for your answer. (1 marks)

(i) Diet. **……**

(ii) Reason (2 marks)

……

……

……

(c) Name the parts labeled (3 marks)

A ……

B ……

D. ……

(d) How are the following structures adapted to their functions (2 marks)

D

……

……

……

C

……

……

……

(e) State the function of the parts labeled. (2 marks)

……

……

……

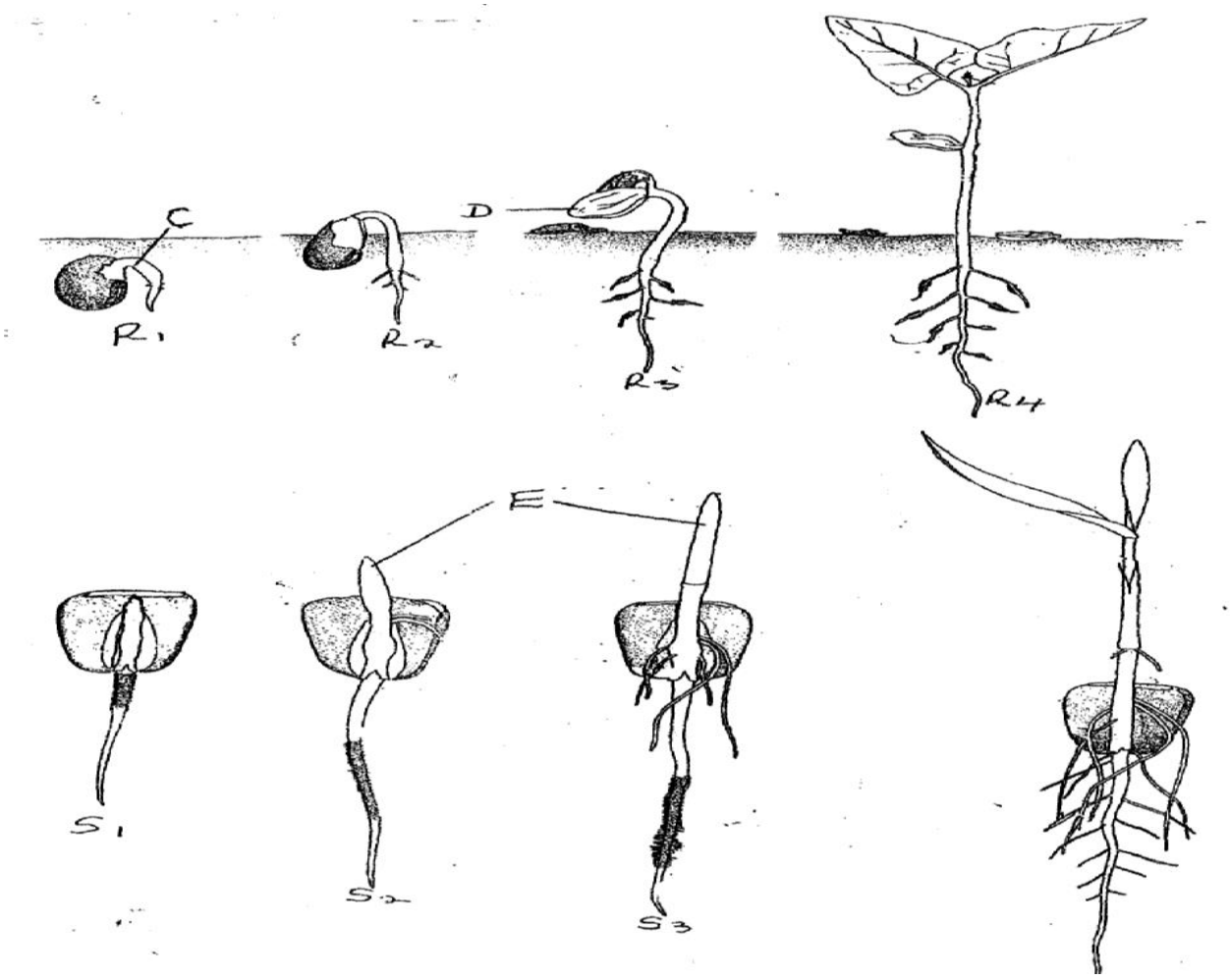
(f) State **one** structural difference between Y and Z (1 mark)

……

……

3. Examine the seedling below and use them to answer the question that follow.

a) Name the part labeled C,D, E and state their importance for the seedling.



C: …… (1mk)

Importance (1mk)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

D. ..... (1mk)

Importance (1mks)

.....

.....

.....

(ii) E..... (lmk)

Importance. (lmk)

.....

.....

.....

(b) The R series of seedlings on the roots later in its life:

(i) What is the name of the swelling: (lmk)

.....

(ii) Name the organisms that would be found in the swellings (1mk)

.....

(iii) Explain the relationship that exists between the named organisms and the plant. (1mks)

.....

.....

.....

(c) (i) State the types of germination exhibited by R series of the seedlings. (1mk)

.....

.....

.....

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(ii) Give a reason for your answer in (c) (i) above. (1mk)

.....

.....

(d) State any two external factors necessary for germination. (2mks)

.....

.....

.....

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

565/1

BUSINESS STUDIES

Paper 1

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

i) Write your name, index number, class and admission number in the spaces provided above.
ii) Sign and write the date of the examination in the spaces provided above.
iii) Answer all questions in the spaces provided.
iv) This paper consists of **9** printed pages
v) Check the question paper to ascertain that all the pages are printed as indicated and no questions are missing.

TOTAL SCORE

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. Highlight **four** reasons why public relations is a popular way of product promotion among banks. (4mks)

……

……

……

……

……

2. Mention **four** non-tax internal sources of revenue to the government. (4mks)

……

……

……

……

……

3. Outline **four** measures that an employer can put in place to improve the performance of her human resource. (4mks)

……

……

……

……

……

4. State whether each of the following transactions will increase, decrease or have no effect on the Balance Sheet totals (4mks)

Transaction	Effect on Balance sheet totals
a) Sold a private car and deposited the money in business bank account	
b) Withdrew money from bank for office use	
c) Paid Mr. Kimeli, a creditor in cash	
d) Purchased a Motor car by cheque	

5. Highlight **four** conditions that must be met in order for an insurance contract to be valid. (4mks)

……

……

……

……

……

……

6. Enter the following transactions in the relevant book of original entry (4mks)

2014 June 1. Made cash purchases worth sh. 25,000

,, 5. Paid sh.38,000 by cheques in full settlement of a debt owed to Kibogong after deducting a 5% cash discount.

,, 12. Bought stationery and paid by cash sh.19,000.

,, 19. Settled a debt of sh.90,000 owed to Yatich stores by cheque after deducting a 3% cash discount.

,, 28. Paid the month's salaries of sh 80,000, by cash, sh. 30,000 and the balance by cheques.

7. Outline **four** ways which the government can use to influence the supply of maize in Kenya. (4mks)

……

……

……

……

……

……

8. Outline **four** negative effects of inflation to an economy. (4mks)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

9. Highlight **four** benefits enjoyed by a holder of a credit card (4mks)

……

……

……

……

……

……

10. The following balances relate to the business of Roba Traders during the period ended 31st March 2014.

	Shs.
Cash at bank	680,000
Premises	500,000
Machinery	175,000
Creditors	190,000
Furniture	85,000
Motor van	200,000
Cash in hand	50,000

Extract the trial balance of Roba Traders as at 31st March 2014. (4mks)

11. Highlight **four** circumstances under which air transport can be preferred to transport goods from one place to another. (4mks)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

12. Study the following document used in home trade.

SIRO TRANSPORTERS CO. LTD

SIRO BUILDING,

OLOO STREET, NANDI ROAD

P.O BOX 100, ELDORET

SUPPLIER'S NAME & ADDRESS	BUYER'S NAME & ADDRESS

HANDLING INFORMATION

QUANTITY TOTAL	DESCRIPTION	WEIGHT(KGS)	COMMODITY /ITEM NUMBER	

TRANSPORT CHARGES PAID

……
…

SIGNATURE OF TRANSPORT CO. SIGNATURE OF SELLER

…… …….

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

DATE ……..	DATE ……...

I.Name the document shown above **……**(1mk)

II.Name two uses of the document (2mks)

……

……

……

……

13. List **four** costs incurred by intermediaries in the chain of distribution (4mks)

……

……

……

……

……

……

14. Prepare ledger accounts from the following transactions relating to Tito Traders for the month of January 2015 (4mks)

January 5th sold goods for Shs 20,000 cash

10th bought furniture for Shs 50,000 on credit from Jamwal Traders

21st Paid Shs 10,000 cash to Jamwal traders

21st Returned furniture worth Shs 6,000 found damaged to Jamwal Traders

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

15. Highlight any **four** features of time deposit account (4mks)

……

……

……

……

……

……

16. Name **four** commercial services that facilitate trade. (4mks)

……

……

……

……

……

……

17. The following balances were extracted from the books of Njoro Traders for the period ended 31st December 2013

	Ksh.
Gross profit	10,000
Salaries	2,000
Commission income	4,000
Rent received	3,000
Electricity	2,000
Carriage outwards	4,000

Prepare a profit and loss account (4mks)

18. Highlight **four** factors that determine the National income of a country. (4mks)

……

……

……

……

……

……

19. Highlight **four** causes of demand pull inflation (4mks)

……

……

……

……

……

20. Outline **four** ways in which the problem of scarce resources can be addressed by a consumer. (4mks)

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

21. Highlight **four** ways in which local resources can be managed to alleviate unemployment problems in Kenya. (4mks)

……

……

……

……

……

……

……

22. Outline **four** factors that comprise a negative internal environment in a business. (4mks)

……

……

……

……

……

……

23. The following information relates to Waruhio Traders as at 31st December 2011.

Waruhio Traders
Balance Sheet
As at 31st December 2011

Fixed Assets:	Shs.		Sh.
Furniture	203,000	Capital	359,000
		Plus Net profit	114,000
Current Assets:			473,000
Stock	174,000	Less Drawings	73,000
Debtors	113,000		400,000
Cash at Bank	53,000	Short term liabilities:	
		1 year Loan	79,000
		Creditors	64,000
	543,000		543,000

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

a) Calculate the total current assets. (1mk)

b) Determine the capital owned. (2mks)

c) Calculate the working capital (1mk)

24. Given below are functions of office equipment. Identify the name of the equipment against the rightful use. (4mks)

Functions of the Machine	**Office Equipment**
Used in posting information to ledgers and pre payrolls	
To transmit printed messages such as photogra letters, and maps	
Usually fire proof where important documents organization are stored	
Used to carry out many functions such as stori information, typing and performing complex calculations	

25. Outline **four** factors that may give rise to monopoly power in an economy. (4mks)

……

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

565/2
BUSINESS STUDIES
PAPER 2
FORM FOUR
TIME: 2 HRS.

INSTRUCTIONS

- *Answer **any five** questions in the separate answer sheet provided.*

TOTAL SCORE

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. (a) Explain **five** measures put in place by the government to bring order in road transport sector in Kenya today. **(10 marks)**

(b) Explain **five** reasons why per capita income is not a good indicator of standards of living. **(10 marks)**

2. (a) On 1st November 2013:Tabagon Co. Ltd. had a balance of shs. 12,000 at the bank and shs. 2500 in hand. During the month, the following transaction took place;

Nov. 1 Cash sales Shs. 2500, cash purchase Shs. 1750
Nov. 3 Paid the following accounts by cheque.
Kirop Shs. 1500 less 5% cash discount
Kirui Shs. 2000 less 5% cash discount
Nasimiyu shs. 2100 less 3 % cash discount
Nov. 5 Received the following amounts from debtors,
Ondiek shs. 1200, Jane shs. 3850 and Mueni by cheque shs. 2050 after allowing her shs. 300 cash discount.
Nov. 14 Paid office cash to the bank shs. 2000
Nov. 17 Cash sales 8500
Nov. 22 Mueni paid her account of shs. 5000 by cheque less 10% cash discount
Nov. 28 Withdrew all the money from the bank for office use except shs. 1000
Nov. 29 Paid salary cash shs. 8000
Nov. 30 A cheque received from Mueni on Nov. 5th was dishonoured.

Prepare Tabagon Co. Ltd. three column cash book. **(10 marks)**

(b) Describe the procedure of obtaining an insurance claim. **(10 marks)**

3.(a)Explain the meaning of the following terms as used in business ownership. **(10 marks)**

(i) Franchising
(ii) Merger
(iii) Holding company
(iv) Front Office Savings Account (FOSA)
(v) Globalization

(b) Explain **five** features of a hypermarket. **(10 marks)**

4. (a) Explain **five** emerging issues in office practice today. **(10 marks)**
(b) Explain **five** reasons that account for the existence of small firms in an economy. **(10 marks)**

5. (a) Explain **five** ways in which communication enhances trading activities.**(10 marks)**

(b) Highlight **five** factors that facilitate entrepreneurial development in an economy. **(10 marks)**

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

6. (a) The following trial balance was extracted from the ledgers of Gathioro's mobile phones business for the year ended 31st Oct 2013.

Gathioro's mobile phones
Trial Balance
As at Gathiro's 31st Oct 2013

Details	Dr. (Shs)	Cr. (Shs)
Sales		855,000
Purchase	420000	
Sales returns	12000	
Purchase returns		20000
Creditors		165000
Debtors	63000	
Motor vehicle	480000	
Cash in hand	65000	
Furniture	190000	
Carriage inwards	14000	
Stock	280000	
Capital		626250
Drawing	88000	
Telephone	6400	
Insurance	8200	
Postage	3850	
Rent	19600	
Discounts received		4000
Advertising	12900	
Discount allowed	7300	
	1670250	**1670250**

On 31st Oct. 2013, the business had closing stock valued at Shs. 60,000

Required

(i) The trading, profit and loss a/c for the year ended 31st Oct 2013. **(8 marks)**

(ii) A balance sheet as at that date. **(4 marks)**

(b) Explain **five** services rendered by the Central Bank to the government. **(10 marks)**

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

233/1

CHEMISTRY

PAPER 1

THEORY

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- *Write you **name** and **index number** in the spaces provided above.*
- *Sign and write the date of examination in the spaces provided above.*
- *Answer **All**the questions in the spaces provided below each question.*
- *Mathematical tables and electronic calculators may be used.*
- *All working **MUST** be clearly shown where necessary*.

For Examiner's Use Only

Question	Maximum score	Candidate's score
1-28	80	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. (a) What is chromatography? (1mk)

……

……

……

(b) Give **two** applications of chromatography (2mks)

……

……

……

……

2. Concentrated sulphuric (vi) acid is used to drysulphuric(vi) oxide gas

(a)Explain why concentrated sulphuric(vi) acid is not used to dry hydrogen sulphide (1mk)

……

……

……

(b) Name one drying agent that can be used to dry hydrogen sulphide (1mk)

……

……

3. Lead (ii) oxide reacts with acids and alkalis

(a) Write the equation for the reaction between lead (ii) oxide and

(i)Dilute nitric (v) acid (1mk)

……

……

(ii) Sodium hydroxide solution (1mk)

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(b) What property of lead (ii) oxide is shown by the reactions in (a) above (1mk)

……

……

……

4. (a)Galvanized iron does not rust when scratched. In contrast when tin can is scratched then exposed iron underneath corrodes rapidly. Explain (2mks)

……

……

……

……

(b) List two methods of preventing rusting (1mk)

……

……

5. The electron arrangement of the atoms of elements **P**,**QR** and **S**are shown below, the letters are not the actual symbols of the elements

ELEMENT	**Electron arrangement**
P	**2.8.7**
Q	**2.8.8.2**
R	**2.8.5**
S	**2.8.6**

(a) Which two elements could react to form a compound soluble in water and a strong electrolyte

……(1mk)

(b) Using dot(.) and cross(x) diagrams show how the molecule between **P** and **S** is formed (1mk)

(c) Name the type of bond formed in (b) above (1mk)

……

6. Distinguish the following terms as used in the study of chemistry (3mks)

(a) Isotopes

……

……

(b) Allotropes

……

……

c) Isomers

……

……

7. Below is a list of major constituents of crude oil and their boiling points

CONSTITUENTS	**BOILING POINTS ^{0}C**
Diesel oil	250-350
Petrol	40-175
Lubricating oil	350-400
Kerosene	175-250

(a) Name the process by which the above constituents can be separated (1mk)

……

……

(b) List down the order by which the constituents would be obtained from the mixture (1mk)

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(c) When the above constituents are burned in air and the products passed through distilled water, the pH of the water decreases. Explain (1mk)

……

……

8. Hydrogen chloride dissolves in both methylbenzene and water. What happens when sodium carbonate is added to a test tube containing a solution of hydrogen chloride in methylbenzene? Explain (2mks)

……

……

……

9. (a)State Charles law (1mk)

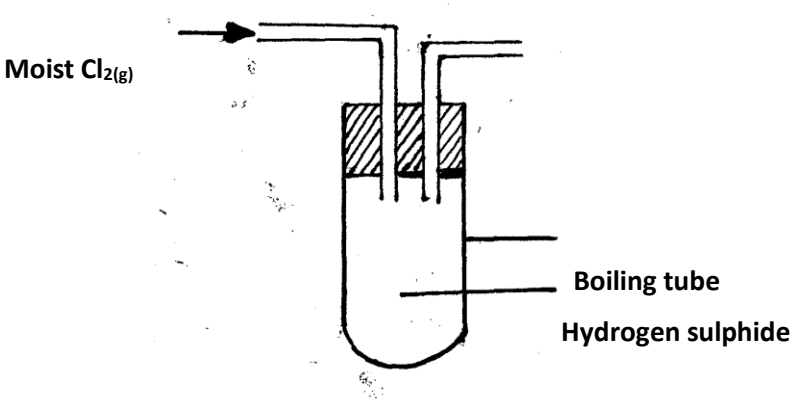
……

……

……

(b) A gas at 17^0C occupies a volume of 510cm^3. Calculate the temperature at which its volume would be 420cm^3 (2mks)

10. Moist chlorine was passed into hydrogen sulphide as shown below



(a) What observation was made in the boiling tube? (1mk)

……

……

(b) Write the equation for the reaction taking place in the boiling tube (1mk)

……

……

(c) State the precautions that should be taken in carrying out this experiment (1mk)

……

……

11. Describe how a mixture of common salt, ammonium chloride and iron fillings would be separated into their individual solids (3mks)

……

……

……

……

……

12. Describe how you would prepare a dry sample of zinc carbonate in the laboratory starting with zinc chloride solid (3mks)

……

……

……

……

……

13. State and explain the observations that would be made if carbon (iv) oxide gas was bubbled through lime water for long time (3mks)

.....

.....

.....

.....

.....

14. The solubility of salt **Y** at 60^0C is 40g/100g of water and 48g/100g of water at 100^0C

(i) How much salt of **Y** would saturate 190g of water at 100^0C (1 ½ mks)

(ii) 150g of saturated solution of **Y** at 100^0C is cooled to 60^0C. Calculate the mass of **Y** that crystallizes out (1 ½ mks)

15. Consider the reversible reaction below which is at equilibrium

$CaCO_{3(s)} \rightleftharpoons CaO(s) + CO_{2(g)}$ ΔH= +ve

State and explain what would happen to the equilibrium if;

(i) A few drops of sodium hydroxide were added to the above system (1 ½ mks)

.....

.....

.....

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(ii) The system was warmed (1 ½ mks)

……

……

……

……

……

16. Explain why hard water flowing in lead pipes may be safer for drinking than soft water flowing in the same pipes (3mks)

……

……

……

……

……

……

17. When sulphur is heated in a test tube, the yellow crystals melt to form a golden yellow liquid which changes at 180^0C into a dark brown very viscous liquid. On further heating to 400^0C, a brown less viscous liquid is formed

(i) What is the molecular mass of sulphur in the yellow crystals (S=32) (1mk)

(ii) If the brown liquid at 400^0C is cooled rapidly at room temperature, which form of sulphur is produced (1mk)

(iii) Explain why the molten sulphur becomes viscous (2mks)

……

……

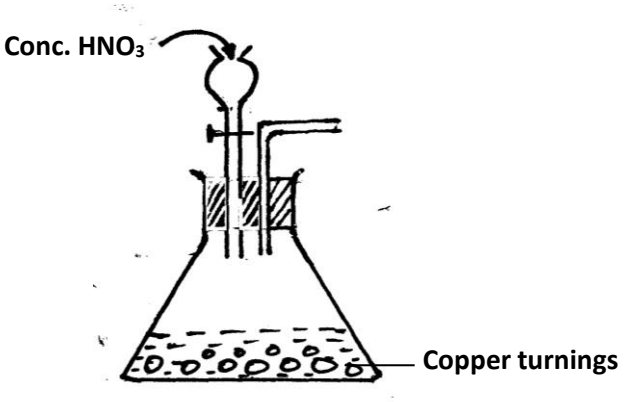
……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

18. When a hydrocarbon is completely burnt in Oxygen, 11.0g of carbon (iv) oxide and 4.5g of water are formed. Determine the molecular formula of the hydrocarbon if its relative molecular mass is 84(C=12,O=16,H=1)

(3mks)

19. Below is an incomplete set-up for preparing a gas



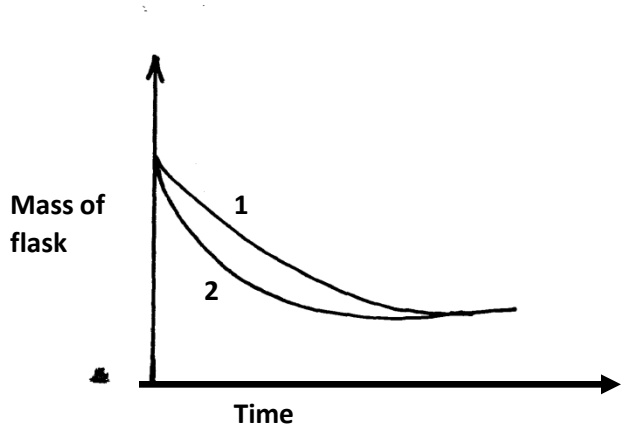
Complete the diagram to show how a dry sample of the gas can be collected (3mks)

20. Strontium lies below calcium in the periodic table. How does the melting point of strontium compare with the melting point of calcium? Explain (3mks)

……
……
……
……
……
……
……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

21. The curves below were obtained when equal volumes of hydrochloric acid of the same concentration were reacted with 25g of marble chips. In one case the acid was first warm



(a) Which curve represents the reaction involving cold acid (1mk)

……

(b) How does increasing temperature affect the rate of reaction (1mk)

……

……

……

(c) Why does the mass of the flask decrease with time (1mk)

……

……

……

22. 100cm^3 of carbon (iv) oxide gas diffused through a porous partition in 30 seconds. How long would it take 150cm^3 of Nitrogen (iv) oxide to diffuse through the same partition under the same conditions. *(C=12, N=14,O=16)* (3mks)

23. Identify the particles that facilitate the electric conductivity of the following substances (3mks)

(i) Sodium metal**……**

(ii) Sodium chloride solution**……**

(iii) Molten lead bromide**……**

24. An ion of oxygen is larger than oxygen atom. Explain (2mks)

……

……

……

……

25. Carbon and silicon belong to the same group of the periodic table, yet carbon (iv) oxide is a gas while silicon (iv) oxide is a solid with a high melting point. Explain this difference (2mks)

……

……

……

……

26. (a) Name the following compounds

(i) $CH_2=CH\ CH_3$

……..

(ii) CH_2ClCH_2Cl

…….

(b) Methane reacts with chlorine to form tetrachloromethane. What condition is required for the reaction to occur?

…….

27. The first step in the industrial manufacture of Nitric (v) acid is the catalytic oxidation of ammonia gas

(a) What is the name of the catalyst used (1mk)

…….

(b) Write the equation for the catalytic oxidation of ammonia gas (1mk)

……

……

(c) Nitric (V) acid is used to make ammonium nitrate. State one use of ammonium nitrate (1mk)

……

……

28. Study the reaction below and answer the questions that follow

$$NH_{3(g)} + H_2O_{(l)} \rightleftharpoons NH^+_{4(aq)} + OH^-_{(aq)}$$

(a) Define the term acid (½mk)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(b) Identify an acid in the above reaction (½mk)

.....

.....

(c)Explain your answer in (b) above (1mk)

.....

.....

.....

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

233/2

CHEMISTRY

Paper 2

Time: 2 hours

INSTRUCTIONS TO CANDIDATES

- *Write your name, admission number, date and school in the spaces provided.*
- *Answer **all** the questions in the spaces provided.*
- *All working must be clearly shown where necessary.*
- *Scientific calculators may be used.*

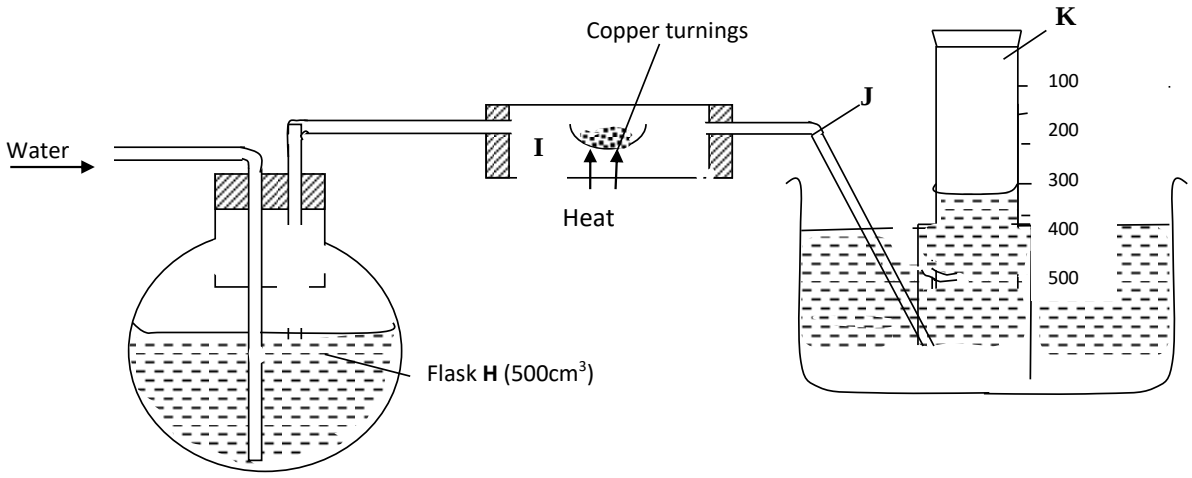
FOR EXAMINERS' USE ONLY

Questions	Maximum Score	Candidate's Score
1	10	
2	12	
3	10	
4	12	
5	13	
6	12	
7	11	
TOTAL	**80**	

*This paper consists of **13** printed pages. Candidates are advised to check and to make sure all pages are as indicated and no question is missing.*

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. A. In an experiment to determine the percentage of oxygen in air, the apparatus below were set up. Study the set up and the information provided to answer the questions that follow.



A 500cm^3 measuring cylinder **K** was filled with water and assembled for gas collection. Copper turnings were heated red hot and water was slowly passed into 500cm^3 flask **H** until it reached the 500cm^3 mark. A colourless gas was collected in **K**.

(i) What was the purpose of passing water into flask **H**? **(1 mark)**

……

……

……

(ii) What observations were made in the tube **I**? **(1 mark)**

……

……

(iii) Name one of the gases that is likely to be found in **J**. **(1 mark)**

……

……

(iv) What was the volume of the gas collected in the measuring cylinder at the end of the experiment? **(1 mark)**

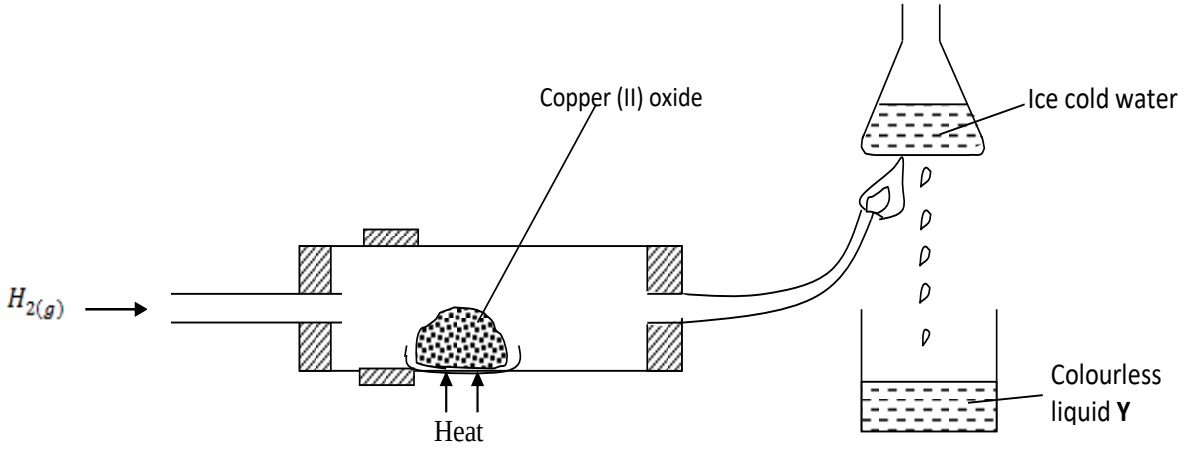
……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(v) Calculate the percentage of oxygen in air using the above results. **(2 marks)**

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



(a) Give ***one*** observation made in the combustion tube after some time. **(1 mark)**

(b) Write an equation for the formation of the colourless liquid **Y**. **(1 mark)**

……

……

(c) What was the aim of the above experiment as demonstrated in the combustion tube? Explain. **(2 marks)**

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

2. Use the information below to answer the questions that follow. The letters are not the actual symbols of the elements.

Element	Atomic No.	M.P^{0}C	B.P^{0}C	Ionic radius (nm)
P	11	98	890	0.095
Q	12	650	1110	0.065
R	13	660	2470	0.050
S	14	1410	2360	0.041
T	15	44.2 & 590	280	0.034
U	16	113 & 119	445	0.184
V	17	-101	-35	0.181
W	18	-189	-186	-

(a) (i) Write the electronic configuration of the atoms represented by letters **T** and **W**. **(1 mark)**

……

……

(ii) State the nature of the oxides of the elements represented by **Q** and **U**. **(2 mark**

……

……

……

……

(b) Why does the elements represented by the letters **T** and **U** have two values of melting points?**(1 mark)**

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(c) Explain the following observations in terms of structure and bonding.

(i) There is an increase in boiling point from **P** to **R**. **(2 marks)**

……

……

……

(ii) Element **S** has a high boiling point. **(2 marks)**

……

……

……

(iii) There is a decrease in boiling points from **U** to **W**. **(2 marks)**

……

……

……

(d) (i) Compare the atomic radius of **U** and **V**. **(1 mark)**

……

……

……

(ii) Why is there no ionic radius for **W** reported in the table? **(1 mark)**

……

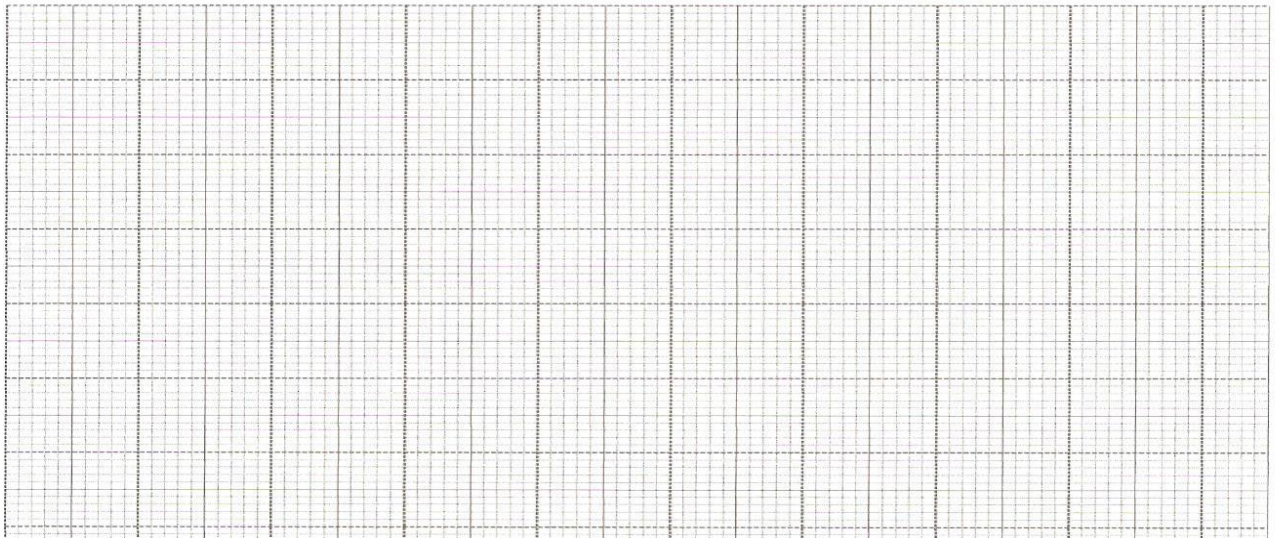
……

……

3. (a) The solubilities of potassium nitrate and potassium bromide at different temperatures was determined. The following data was obtained.

Temperature ^0C		0	10	20	30	40	50	60	70	80
Solubility g/100g H_2O	KNO_3	5	15	26	43	61	83	105	135	165
	KB_r	50	55	60	65	70	77	85	90	95

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes



(ii) What was the solubility of each salt at 65^0C? **(1 mark)**

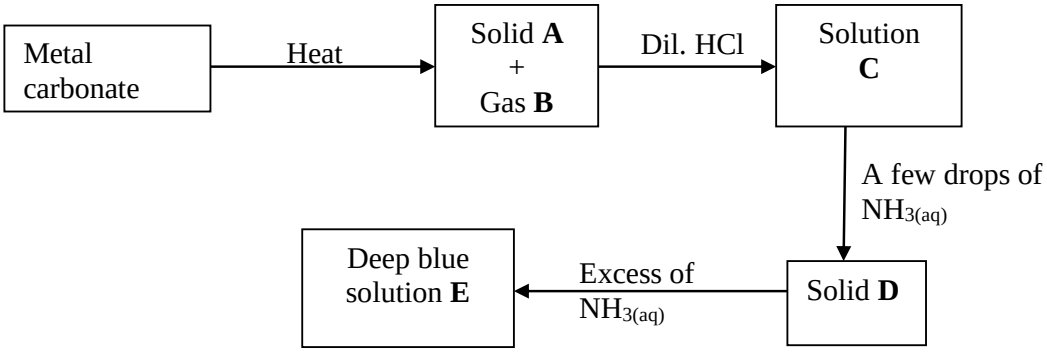
……

……

……

(iii) 100g of a saturated solution of potassium nitrate at 70^0C was cooled to 20^0C. What mass of the crystals will be crystallized? **(2 marks)**

(b) Study the flow chart below and answer the questions that follow.



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(i) Write an equation for the formation of solid **A** and gas **B**. **(1 mark)**

……

……

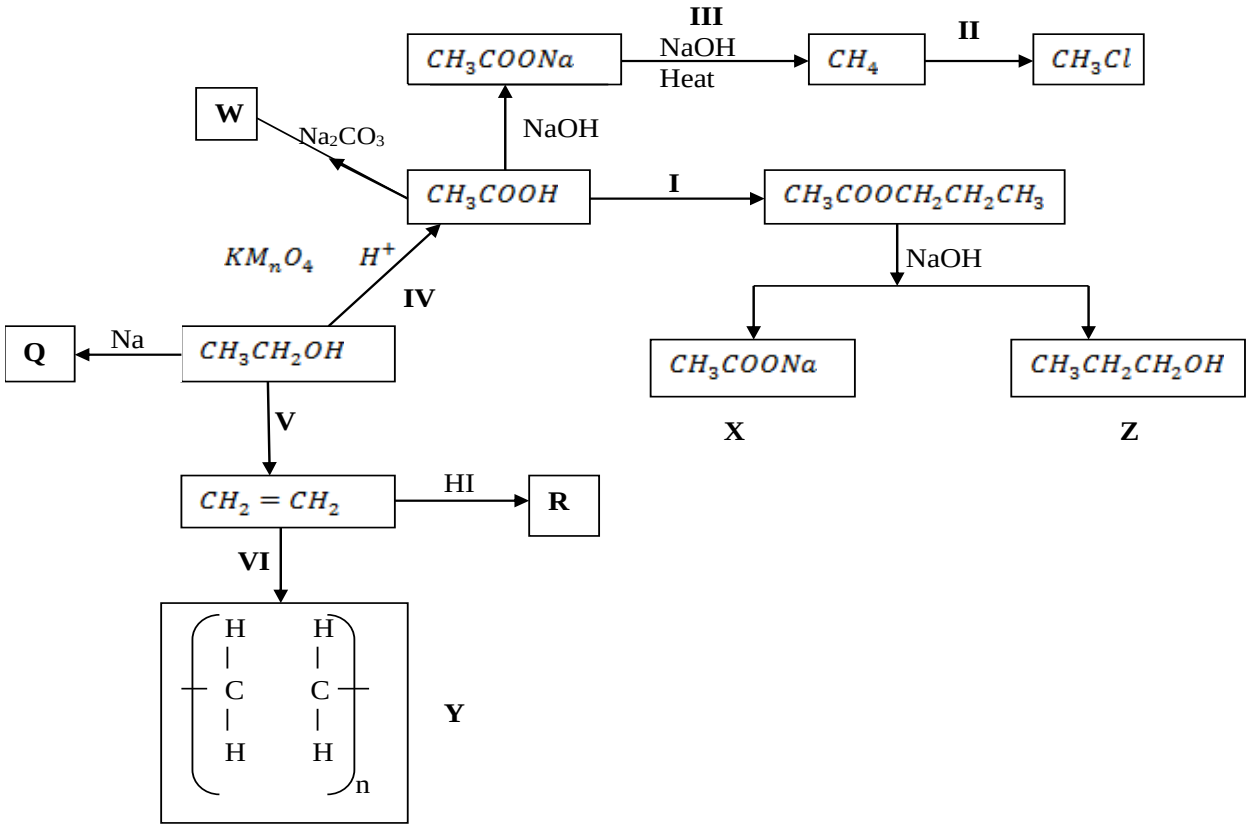
(ii) Name;

Solution **C** - …… **(1 mark)**

Solid **D** - …… **(1 mark)**

(c) Write the formula of the complex ion in solution **E**. **(1 mark)**

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



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(a) Name substance. **(3 marks)**

X - **……**

Q - **……**

R - **……**

(b) Write down an equation for the reaction represented by step III. **(1 mark)**

……

……

(c) What are the conditions and reagent required for steps?

(i) **I** **(2 marks)**

Reagent - **……..**

Condition - **……..**

(ii) **IV** **(2 marks)**

Reagent - **……..**

Condition - **……..**

(b) Name the process represented by: **(4 marks)**

I - **……**

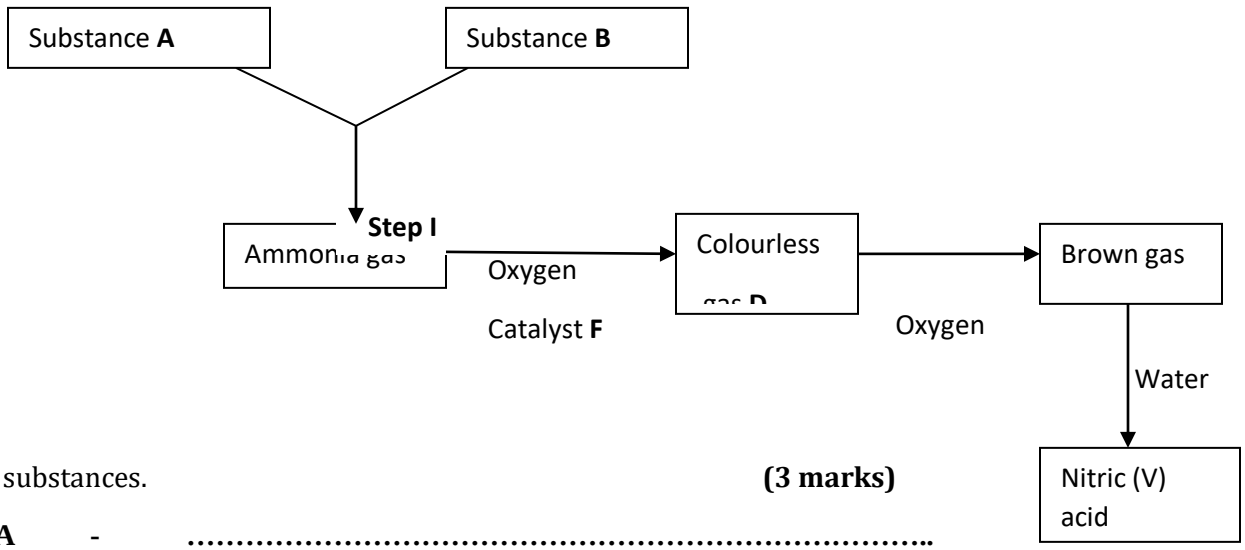
II - **……**

IV - **……**

V - **……**

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

5. **I.** Study the scheme below and answer the questions that follow.



(a) Identify substances. **(3 marks)**

A - ……..

B - ……..

D - ……..

(b) State the catalyst necessary for; **(2 marks)**

Step I - ……

Step II - ……

(c) Write an equation for the reaction taking place in step **II**. **(1 mark)**

……

……

(d) Write two balanced chemical equations for the reaction between chlorine gas and;

(i) Hot and concentrated sodium hydroxide. **(1 mark)**

……

……

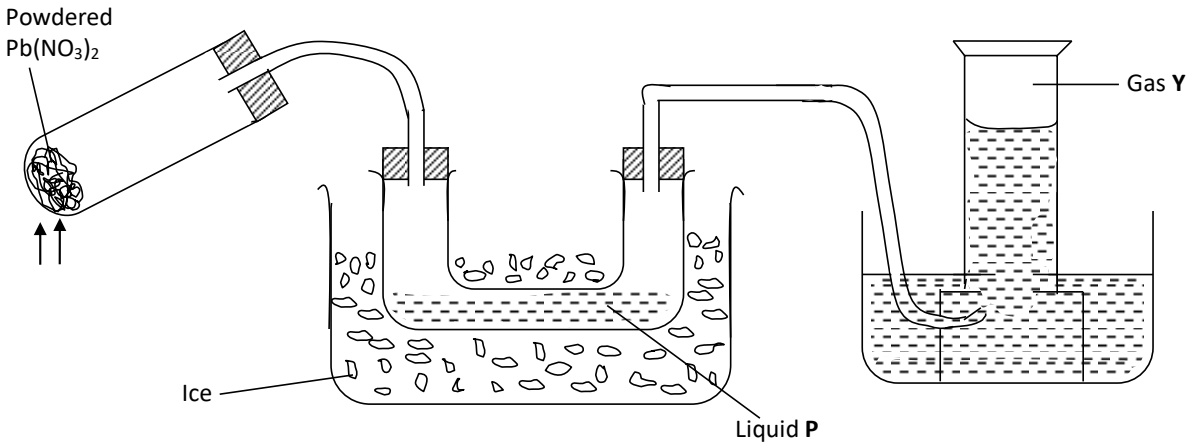
Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(ii) Dilute and cold sodium hydroxide. **(1 mark)**

……

……

II. The diagram below shows an experiment in which the Lead (II) nitrate crystals are heated.



(a) Name; **(2 marks)**

(i) Liquid **P** - ……..

(ii) Gas **Y** - ……..

(b) Write a balanced chemical equation for the decomposition of Lead (II) nitrate. **(1 mark)**

……

……

(c) Explain how you can distinguish between nitrogen (II) oxide and nitrogen (I) oxide.
(2 marks)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

6. **I.** Study the standard electrode potentials given below and answer the questions that follow.

$D^{2+}_{(aq)} + 2e^- \rightleftharpoons D_{(s)} \quad E^\theta = -2.92V$

$G^{2+}_{(aq)} + 2e^- \rightleftharpoons G_{(s)} \quad E^\theta = -2.36V$

$\frac{1}{2}J^{2+}_{(g)} + e^- \rightleftharpoons J_{(s)} \quad E^\theta = 0.00V$

$M^{2+}_{(aq)} + 2e^- \rightleftharpoons M_{(s)} \quad E^\theta = +0.34V$

$\frac{1}{2}R^{2+}_{(aq)} + e^- \rightleftharpoons R_{(s)} \quad E^\theta = 2.87V$

(a) Identify the strongest:

(i) Reducing agent …….. **(1 mark)**

(ii) Oxidizing agent …….. **(1 mark)**

(b) Calculate the e.m.f of a cell made of G and M. **(2 marks)**

(c) Write the cell representation for the above cell in (b). **(1 mark)**

(d) Draw a cell diagram for the cell in (b) above. **(2 marks)**

(e) Write the cell reaction for the drawn cell diagram in (d) above. **(1 mark)**

II. Electrolysis of aqueous solution of metal M resulted in the deposition of 1.07g of metal upon passage of a current of 1.32 amperes for 75 minutes.

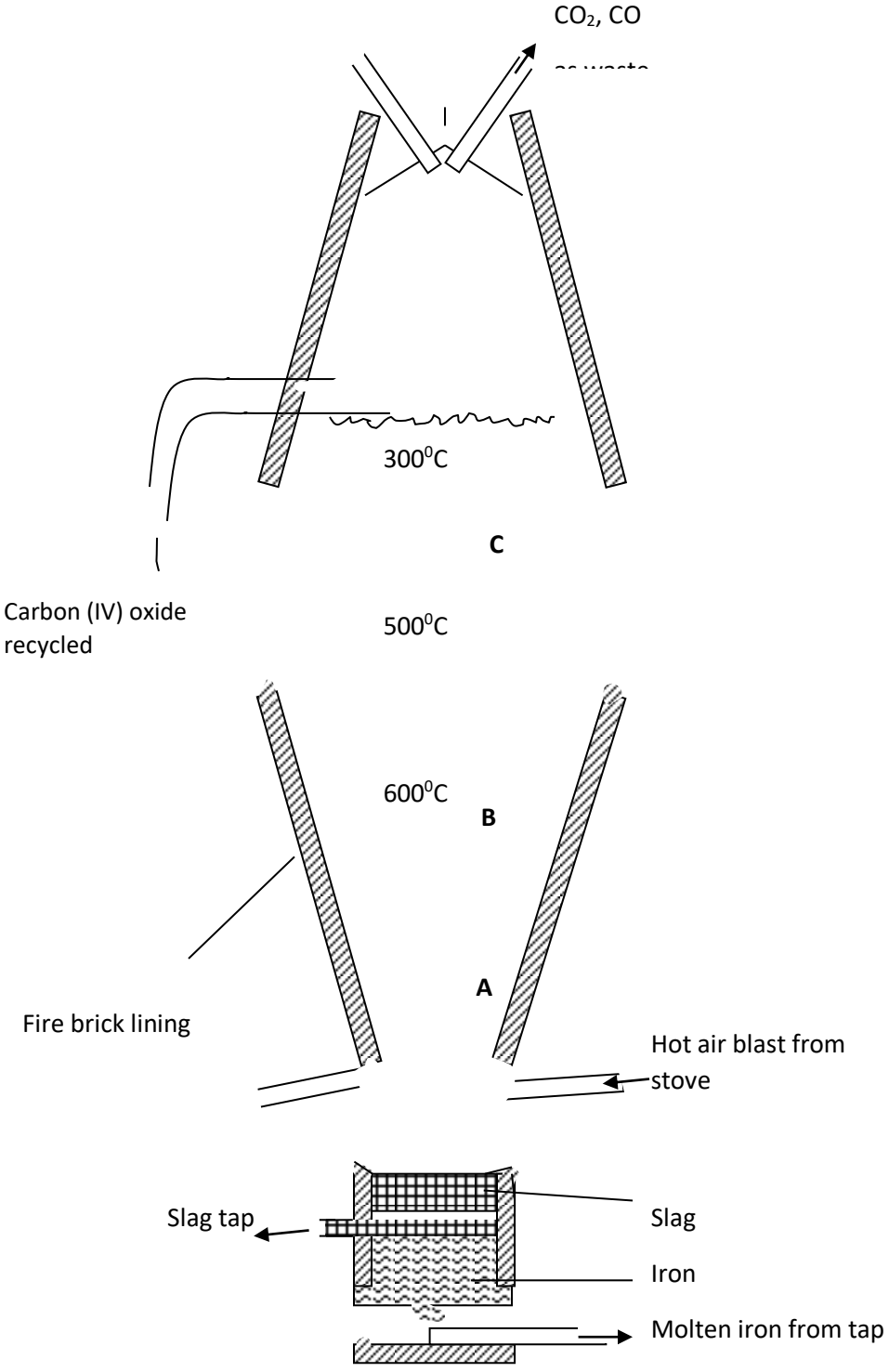
(M = 52, 1F = 96500C)

(i) Calculate the quantity of electricity passed through the cell. **(1 mark)**

(ii) Calculate the charge on the metal ion. **(3 marks)**

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

7. Extraction of iron involves two main processes, smelting and refining. Below is the blast furnace which is used to smelt iron from its ore.



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(a) (i) What does the word smelt mean? **(1 mark)**

……

……

……

(ii) Name the reducing agent in the process. **(1 mark)**

……

……

……

(iii) What is the role of the hot air blast in the process? **(2 marks)**

……

……

……

……

(b) Write equations for the reactions that take place at the region marked A, B and C.
(3 marks)

A - ……

B - ……

C - ……

(c) What is the purpose of limestone in the extraction process? **(1 mark)**

……

……

……

(f) Write equations to show how impurities are removed from the ore. (3marks)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

233/3
CHEMISTRY

TIME: 2 ¼ HOURS

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

INSTRUCTIONS TO CANDIDATES:

(a) Write your name and index number in the spaces provided.
(b) Sign and write the date of examination in the spaces provided
(c) Answer ALL the questions in the spaces provided in the question paper
(d) You are NOT allowed to start working with the apparatus for the first 15 minutes of the 2 ¼ hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus you may need.
(e) All working MUST be clearly shown where necessary.
(f) Mathematical tables and electronic calculators may be used.
(g) Candidates should check the questions to ascertain that all pages are printed as indicated and that no questions are missing.

For Examiner's Use Only:

Question	Maximum score	Candidates score
1	22	
2	8	
3	10	
Total score	40	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. You are provided with:

- A monobasic acid HA, solution J.
- Sodium carbonate solution, solution Q, containing 1.325g in 250cm^3 of solution.
- Solution R, containing 15.75g of $M(OH).8H_2O$ per litre.
- Screened methyl orange indicator.

You are required to:

- Standardize solution J.
- Determine the relative atomic mass of element M in $M(OH)_2.8H_2O$.

Procedure 1

Fill the burette with solution J. Pipette 25cm^3 of solution Q into a clean 250ml conical flask and add 2 – 3 drops of screened methyl orange indicator. Titrate this solution with the solution in the burette and record your results in table 1 below. Repeat this procedure and complete the table. **Retain solution J in the burette for use in procedure II**.

Table 1

Titre	I	II	III
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of J used (cm^3)			

(4 marks)

a) Calculate the average volume of solution J used. (1 mark)

b) Determine the concentration of solution Q in moles per litre (Na=23, C=12, O=16 (1 mark)

c) (i) Determine the number of moles of the monobasic acid solution, HA, that are in the averaged value calculated in (b) above. (1 mark)

(ii) Determine the concentration of solution J in moles per litre. (1 mark)

Procedure 2

- Using a 25cm^3 measuring cylinder, transfer 25cm^3 of solution R into a clean 250ml conical flask. Using a 100ml measuring cylinder, transfer 75cm^3 of solution Q into the flask with solution R. Boil the mixture for about 5 minutes. After cooling filter into a conical flask and transfer the filtrate into a clean 100ml measuring cylinder and add distilled water to make exactly 100cm^3 of solution. Label this solution as solution S.

Pipette 25cm^3 of solution S into a conical flask and titrate it with solution J using 2 drops of screened methyl orange indicator. Record your results in table 2 below. Repeat this to complete the table.

Table 2

Titre	I	II	III
Final burette reading (cm^3)			
Initial burette reading (cm^3)			
Volume of **J** used (cm^3)			

(4 marks)

d) Calculate the average volume of solution J used. (1mark)

e) Determine the number of moles of:

(i) The monobasic acid, HA, in the average volume. (1 mark)

(ii) Sodium carbonate in 25cm^3 of solution S. (1 mark)

(iii) Sodium carbonate in 75cm^3 of solution S. (1 mark)

iv) Sodium carbonate in the original 75cm^3 of solution S. (1 mark)

v) Sodium carbonate that reacted with solution R. (1 mark)

vi) M $(OH)_2$. $8H_2O$ in 25cm^3 of solution R. (1 mark)

(1 mole of M $(OH)_2$. $8H_2O$ reacts with one mole of sodium carbonate)

f) Determine

(i) the concentration of solution R in moles per litre. (1mark)

(ii) the relative formula mass of $M(OH)_2.8H_2O$. (1 mark)

(iii) the relative atomic mass of M (O=16.0, H=1.0) (1mark)

2. You are provided with:
Solid P, 2.0 g of a dibasic acid H_2X.

You are required to determine the molar heat of solution of solid P.

PROCEDURE

Place $30cm^3$ of distilled water into a 100ml beaker. Measure the initial temperature of the water and record it in the table below. Add all the solid P at once and stir the mixture carefully with the thermometer until all the solid dissolves. Measure the final temperature reached and record it in table.

Final temperature (^oC)	
Initial temperature (^oC)	

(3 mks)

a) Determine the change in temperature, ΔT. (1 mk)

b) Calculate the:

i) heat change when H_2X dissolves in water. (Assume the heat capacity of the solution is 4.2 $Jg^{-1o}C^{-1}$ and density is $1g/cm^3$) (2 mks)

ii) number of moles of the acid that were used. (Relative formula mass of H_2X is 126) (1mk)

iii) molar heat of solution, ΔH, of the acid H_2X. (1mk)

3.You are provided with solid **G**.Place all solid **G** in a boiling tube.Add distilled water and shake.Divide the resulting solution into three portions.

Inferences	0bservations
(½ mk)	(½ mk)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

i)To the first portion add drops of 2M sodium hydroxide.

Inferences	0bservations
(½ mk)	(½ mk)

ii)To the second portion dip a metallic spatula in the solution and burn it directly on a non-luminous flame.

Inferences	0bservations
(½ mk)	(½ mk)

iii)To the third portion add three drops of barium nitrate solution followed by $2cm^3$ of 2M hydrochloric acid.

Inferences	0bservations
(½ mk)	(½ mk)

iv) To the fourth portion add three drops of acidified potassium dichromate (VI) solution.

Inferences	0bservations
(½ mk)	(½ mk)

b)You are provided with solid **F.** Carry out the tests below and record your observations and inferences in the spaces provided

(i) Using a metallic spatula, heat half of solid F in a non-luminous bunsen burner flame .

Inferences	0bservations
(½ mk)	(½ mk)

(ii) Put a half spatula endful of solid **F** into a boiling tube. Add about 10cm^3 of distilled water and shake.

Inferences	0bservations
(½ mk)	(½ mk)

Divide the resulting solution from a(ii) above into two portions

(i) To the first portion,2 -3 drops of universal indicator and determine its pH.

Inferences	0bservations
(½ mk)	(½ mk)

(ii) To the second portion, add two drop of acidified potassium Manganate (VII) solution and shake.

Inferences	0bservations
(½ mk)	(½ mk)

(c) Put half spatula endful of solid **F** into a boiling tube and add 5 drops of ethanol followed by 2 drops of concentrated sulphuric (VI) acid.warm the mixture.

Inferences	0bservations
(½ mk)	(½ mk)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

451/1

COMPUTER STUDIES

Paper 1

Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES

- Write your **name, School** and **index number** in the spaces provided above.
- This paper consists of Two sections **A & B**
- Answer **ALL** the questions in Section **A**
- Question 16 is compulsory
- Answer any **THREE** questions in section **B**
- All answers to ALL questions must be written in the spaces provided in the question paper

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM MARKS	CANDIDATES SCORE
A	1-15	40	
B	16	15	
	17	15	
	18	15	
	19	15	
	20	15	

SECTION A (40 MARKS)

Answer all the questions in this section in the spaces provided

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. State any **two** peripheral devices that are powered by the system unit. (1 mk)

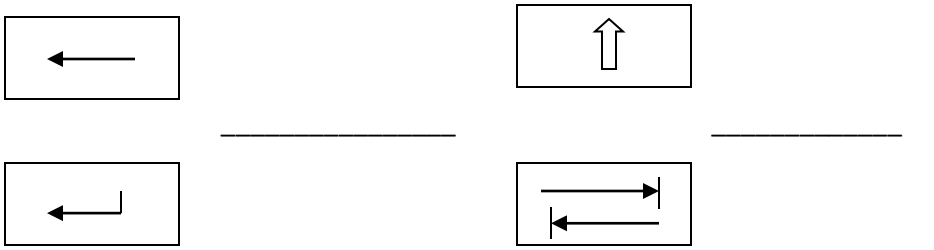
……

……

……

……

2. The following are symbols of some keys found on the keyboard. Name the keys represented by the symbols. (2 mks)



_____ _____

_____ _____

3. Explain any **three** functions of system software in a computer (3mks)

……

……

……

……

……

4. As a computer student you have been asked to assist in buying an input device. State any **four** factors to consider when buying input devices. (4mks)

……

……

……

……

……

……

5. i. The arithmetic logic unit, the control unit and the main memory use electrical pathways or links called buses. State and explain the three types of buses. (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

……

……

ii. What is the role of special purpose memories in the microprocessor? (1 mk)

……

……

……

(iii) Outline the **three** differences between primary memory and secondary memory. (3mks)

……

……

……

……

……

6. Citing relevant examples state **two** advantages of integrated software as opposed to single purpose.(2mks)

……

……

……

……

7. a. Define the term mail merging (1 mk)

……

……

……

b. Name **two** files that are created in mail merging process (1mks)

……

……

……

9. (a) Distinguish between a workbook and a worksheet as used in spreadsheets (2mks)

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

(b) What is the meaning of "what if analysis" with respect to spreadsheet? (1mk)

……

……

……

10. Define the following terms in relation to internet (2 mks)

i). Downloading

……

……

……

ii). Hyperlink

……

……

……

11. Benjos was instructed by his teacher while typing a Microsoft word document to replace all the occurrences of the word MS with Microsoft. Highlight the steps to do this (3mks)

……

……

……

……

……

……

12. What is the difference between logical and physical file? (2mks)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

13. Explain any **three** types of computer processing files. (6mks)

.....

.....

.....

.....

.....

.....

.....

.....

14. Give a reason why HTML is not considered as a true programming language. (1mk)

.....

.....

.....

15. (a) Define the following computer crimes

(i) Piracy (1mk)

(ii) Industrial espionage (1mk)

.....

.....

.....

.....

.....

SECTION B (60 MARKS)

Answer questions 16 (COMPULSORY) and any other three questions in this section

16. (a) Draw a flowchart for a program that is to prompt for N numbers, accumulate the sum and them find the average. The output is the accumulated totals and the average. (5 mks)

(b) Write a pseudo code for the above program. (4 mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(c) Explain **three** types of control structures use in programming. (3mks)

.....

.....

.....

.....

.....

.....

.....

17. (a) i. Subtract 110_2 from 11010_2 (1mk)

ii. Find the sum of binary number 101.101_2 and 110.100_2 (1mk)

(b) i. Convert binary number 11010110.1001_2 into octal number. (1mk)

ii. Convert binary number 11010110.1001_2 into hexadecimal number. (1 mark)

(c) Convert the following numbers to their decimal equivalent

i. 11.011_2 (2 marks)

ii. 0.11011_2 (2 mrks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(d) i. Convert $3BD_{16}$ to Octal. (3mks)

ii. Using one's complement, calculate $5_{10} - 9_{10}$. use six bit in your calculation. (3mks)

(e) State the following types of transcription errors: (2 marks)

i. 3455 instead of 3456

……

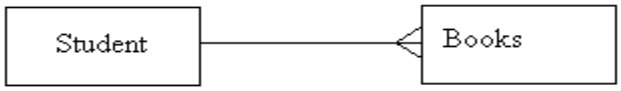
……

ii. Simth instead of Smith

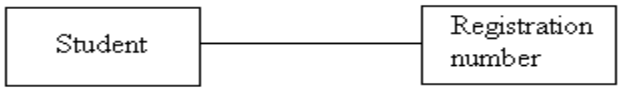
……

……

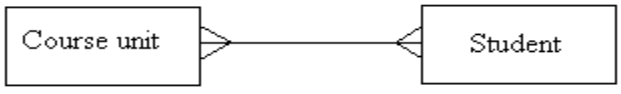
18. (a) State and explain the following types of relationship as used in database design

i. 

(2 marks)

ii. 

(2 marks)

iii. 

(2 marks)

(b) i. Explain the difference between primary key and an index key as used in database application(2 marks)

……

……

……

……

ii. Outline the functions of a primary key (2 marks)

……

……

……

……

(c) Describe the following types of database model

i. Network model (2 marks)

……

……

……

……

ii. Relational model (2 marks)

……

……

……

……

19. (a) i. What is an operating system? (1 mark)

……

……

……

ii. Maintaining security is one of the functions the operating system. Explain how the operating system maintains security (2mks)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

iii. Explain how an operating system controls I/O devices. (2mks)

.....

.....

.....

.....

(b) What does the following control measures against computer crime involve? (5 mks)

i. Audit trail

.....

.....

.....

ii. Data encryption

.....

.....

.....

iii. Log files

.....

.....

.....

iv. Passwords

.....

.....

.....

v. Firewall

.....

.....

.....

(c) Briefly explain what happen during power on self test (POST) (3 mks)

.....

.....

.....

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

(d) Explain the functions of complementary metal-oxide semiconductor (CMOS) (2 mks)

……

……

……

……

20. a) State **two** advantages and two disadvantages of the ring network topology

Advantage (2mks)

……

……

……

Disadvantages (2mks)

……

……

……

b) State **two** roles and responsibilities of each of the following ICT professionals

i) Webmaster (2mks)

……

……

……

……

ii) Network Administrator (2mks)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

iii) Computer scientists (2mks)

……

……

……

iv) System Administrator (2mks)

……

……

……

……

v) Software Engineer (2mks)

……

……

……

……

c) Explain the term accreditation as used in education (1mk)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

451/2
COMPUTER STUDIES
Paper 2
(Practical)
Time: 2 ½ Hours

INSTRUCTIONS TO CANDIDATES

*a) Indicate your **name** and **Index number** at the top right hand corner of each print out*
*b) Write your **Name**, and **Index Number** on the CD / Removable storage medium provided*
*c) Write the **name** and the **version** of each S/W used for each question attempted in the answer sheet provided.*
*d) Answer **all** the questions*
e) All questions carry equal marks
*f) Passwords **should not be used** while saving in the CD/Removable storage medium*
*g) All answers **must** be saved in the CD / Removable storage medium*
h) Make a printout of answers on the answer sheet provided.
i) Arrange your printouts and tie/staple them together.
*j) hand in all the **printout** and the CD/removable storage medium used*
*k) **This paper consists of 4 printed pages***
*l) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing***

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. Jumia sales and marketing company sells products J, K, L. The table below shows an extract of a spreadsheet for the company`s salespersons and their respective sales in shillings for each product.

	A	B	C	D	E	F	G	H
1	**SALES PERSON**	**PRODUCT J**	**PRODUCT K**	**PRODUCT L**	**TOTAL SALES**	**POINTS**	**CATEGORY**	**TOTAL PAY**
2	Jackline	4,000.00	6,230.00	7,500.00				
3	Mary	4,500.00	6700.00	8,000.00				
4	Cantona	5,678.00	10,000.00	7,800.00				
5	Janeth	3,200.00	4,000.00	9,600.00				
6	Maxwell	8,000.00	7,005.00	8,900.00				
7	Nambwa	9,800.00	9,670.00	10,000.00				
8	Kedeki	2,700.00	3,400.00	2,300.00				
9	**TOTAL**							

(a) i) Using a spreadsheet package enter the above information and save it as **SALES_TABLE.** (9 marks)

(ii) Format the worksheet to appear as it is. (4 marks)

(b) (i) Type a formula:

I at cell B9 to compute the total sales for product J; (1 mark)

II at cell E2 to compute the total sales for Thomas . (1 mark)

(ii) Apply the formulae to the appropriate cells. (2 mark)

(c) A Salesperson earns points for the sales of each product based on the following criteria;

- 1 point for every shs. 50 for product J,
- 2 points for every shs.65 for product K
- 3 points for every shs.40 for product L

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(i) Type a formula in cell F2 to compute the total points earned by Thomas; (3marks)

(ii) Apply the formula in (c) (i) to the rest of the salespersons. (1 mark)

(d) A salesperson is categorized based on points earned as follows.

POINTS RANGE	**CATEGORY**
Over 1300	Gold
1101-1300	Silver
Up to 1100	Bronze

Those salespersons attaining a Gold category earn a promotion.

(i) Type a formula in G4 to determine Cantona's category. (5 marks)

(ii) Apply the formula in (d) (i) to other appropriate cells. (1 mark)

(iii) Type a formula at G10 to determine the number of Sales who will earn a promotion (4 marks)

(e) Each salesperson earns a total pay of Shs 20,000 plus 2% commission of their total sales. Using absolute referencing, determine the total pay for each salesperson if the value 2 is entered in cell B12. (5 marks)

(f) Create a bar chart showing product J and L sales person. Insert appropriate labels on the chart. (9 marks)

(g) Rename the worksheet containing the data as **SalesData** and the chart sheet as **SalesChart**. (2 marks)

(h) Print the following: (3 marks)

(i) **SalesData**;

(ii) **SalesData** showing the formulae;

(iii) **SalesChart**.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

2. ERICK owns houses for rent. The Table below is a record of his tenants' rent payments.

Tenant ID	Tenant Name	House Number	Month	Amount(Ksh)
2019	Maureen	A1	January	3,000
2022	Wekesa	A2	January	4,000
2038	Mary	B1	January	4,500
2059	Mark	B2	January	4,500
2070	Matildah	C1	January	4,000
2090	Maureen	A1	February	3,000
3030	Wekesa	A2	February	4,000
3040	Mary	B1	February	4,500
3025	Matildah	C1	February	4,000
3050	Alice	C2	February	3,500
3055	Wekesa	A2	March	4,000
3090	Alice	C2	March	3,500

(a) Create a database file that can be used to store the above data.

Name the file **Rent.** (2 marks)

(b) Create two tables, one to store tenant details and another to store tenant rent payments. Name the tables '**Tenants**' and '**Payments**' respectively. (9 marks)

(c) Create a relationship between the two tables. (3 marks)

(d) Design a form to be used to enter data into each of the two tables. (7 marks)

(e) Enter the information given into the two tables. (9 marks)

(f) Create a report showing the amount Erick received from each tenant, the total for each month and the total amount he received over the three months. The report should be title 'Rent income'. Save the report as '**Income**'. (8 marks)

(g) (i) Create a query named '**Statement**'to extract Wekesa's records of rent payment. (3 marks)

(ii) Create a report '**Tenant Statement** 'showing Wekesa's rent payment history.The report should be title 'Tenant Statement'. (4 marks)

(h) Print the two tables and the two reports (4 marks)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

313/1

CHRISTIAN RELIGIOUS EDUCATIN
PAPER 1
TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

- Answer ALL the questions.
- Each question on its own foolscap.
- Question must be answered neatly in a good hand writing.

QTN	1	2	3	4	5	TOTAL SCORE
SCORE						

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. a) Outline the first account of creation in Genesis 1:1-2:49 (7mks)

b) State **seven** responsibilities given to human beings by God in the genesis stories of creation.(7mks)

c) Outline **six** ways in which Christians care for God's creation today. (6mks)

2. a) Explain the factors that led to the division of Israel after the death of King Solomon. (7mks)

b) Identify **seven** reasons that led to the Mt. Carmel contest. (7mks)

c) State **six** reasons why leaders are rejected in society today. (6mks)

3. a) Mention seven ways in which the old Testament prophets communicated their messages. (7mks)

b) Give **seven** reasons why Israel and Judah would face God's judgement according to prophet Amos. (7mks)

c) State six ways in which modern Christians may invite Gods punishment on them. (6mks)

4. a) Describe the call of prophet Jeremiah. (7mks)

b) Outline **seven** reasons why Jeremiah condemned human sacrifice. (7mks)

c) State **six** ways in which Christians can reduce human suffering. (6mks)

5. a) Identify seven factors that promote harmony and social responsibility in traditional African Community. (7mks)

b) Mention seven factors that influence the naming of children in traditional African society. (7mks)

c) Show how modern trends have affected burial rites in traditional African communities. (6mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

313/2
CHRISTIAN RELIGIOUS EDUCATION
PAPER 2
TIME: 2 ½ HOURS

Instructions to candidates

- Answer ALL the five questions.
- Each question should be done on a separate foolscap.
- Questions must be answered neatly in a good hand writing

QUESTION	1	2	3	4	5	TOTAL SCORE
SCORE						

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. a) Outline Nathan's prophecy concerning the coming of the messiah. (6mks)

b) Describe the birth of John the Baptist according to Luke 1:57-79. (7mks)

c) Give **seven** reasons why Christians sing in church today. (7mks)

2. a) Outline **seven** teachings of Jesus from the sermon on the plain on true discipleship. (7mks)

b) Using examples give **four** reasons why Jesus faced opposition from the Jewish, religious leaders in Galilee . (8mks)

c) Outline **Five** ways in which the church leaders are preparing in the society for the second coming of Jesus. (5mks)

3. a) Narrate the parable of the great feast. (7mks)

b) Identify **seven** teachings of Jesus on eschatology according to Luke 21:5-38.(7mks)

c) State **six** reasons why Christians celebrate the last supper today. (6mks)

4. a) Give **seven** instructions Paul gave to the church in Corinth on how to use Spiritual gifts. (7mks)

b) Explain how the unity of believers is expressed in the image of the bride Rev.2:1-2 2 cor11:2. (6mks)

c) Outline the importance of the Holy Spirit to Christians today. (7mks)

5. a) Outline **seven** moral duties of employers to employees. (7mks)

b) Mention **seven** factors that determine a just wage. (7mks)

c) Show how retrenchmentof workers affect their families. (6mks)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

ENGLISH

PAPER 1: FUNCTIONAL SKILLS

TIME: 2 HOURS

Instructions to candidates

a) Write your name and index number in the spaces provided.
b) Sign and write the date of the examination.
c) Answer all the questions in this question paper
d) All your answers must be written in the spaces provided.
e) Candidates should answer all the questions in English.

QUESTIONS	**MAXIMUM SCORE**	**CANDIDATE'S SCORE**
1	20	
2	10	
3	30	
TOTAL		

1. Imagine you had some guests from Sweden who visited you to celebrate your birthday. They enjoyed the special meal that you had prepared for them. One of them has requested for the recipe. Send it by e-mail. (20mks)

……

……

……

2. CLOZE TEST

The broadened freedom of speech bestowed upon people ---------- the rise of social media platforms does have its merits, as many now ----------a platform where they can ---------- their concerns about injustices within the society. ----------, everything has its good things and bad things as ----------. The freedom on social media has also rendered these avenues ----------grounds for hate ----------. Many use it to promote their bigoted ideology. They encourage hatred ---------- warring individuals or parties simply because they are ---------- to the views, beliefs, or behavior that differ from ----------.

3. ORAL SKILLS

Read the oral poem below and respond to the questions that follow.

A BAREFOOT BOY

A barefoot boy! I mark him at his play…
For May is here once more, and so is he,…
His dusty trousers, rolled half to the knee,
And his bare ankles grimy, too, as they:
Cross- hatchings of the nettle, in array
Of feverish stripes, hint vividly to me
Of woody pathways winding endlessly
Along the creek, where even yesterday
He plunged his shrinking body – gasped and shook
Yet called the water 'warm' with never lack
Of joy. And so, half enviously I look
Upon this graceless barefoot and his track,…
His toe stubbed…, his big toe-nail knocked back
Like unto the clasp of an old pocketbook.

i) Identify and illustrate two devices that make the poem musical. (2mks)

……

……

……

……

ii) How would you effectively recite line 13 of this poem? (2mks)

……

……

……

……

iii) Which word would you stress in line 12? Give a reason. (2mks)

……

……

……

……

b) One of the features in listening skills is maintaining a meaningful eye-contact with the speaker. Why do you think it is important to do so? (3mks)

……

……

……

……

……

……

c) Consider the following oral literature item.

Mi moet moet a moita (There is a wound in a calf's stomach)

i) Classify the above genre (1mk)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

ii) Identify and illustrate two features of sound in the above genre. (2mks)

……

……

……

……

iii) Explain what is lost if the item above is translated from its original language. (2mks)

……

……

……

……

iv) Give one role of the above item (1mk)

……

……

……

……

d) Underline the silent letter(s) in the following words (3mks)

i) sword iv) bouquet

ii) debris v) victual

iv)grandmother vi)corps

e) Which is the odd one out in the following groups of words based on the underlined sounds? (3mks)

a) beer	bare	bear	pair
b) tough	giraffe	dough	photograph
c) honest	honour	heifer	heir

f) For each below, provide another that is identical in pronunciation. (4mks)

i) clue iii) board

ii) sole iv) tear

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

e) Imagine you are the leader of a discussion group in your class. How would you ensure that the discussion is fruitful. (5mks)

……

……

……

……

……

……

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

101/2
FORM 4
ENGLISH PAPER 2
TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

(a) Write your name and index number in the spaces provided.
(b) Sign and write the date of the examination.
(c) Answer all the questions in this question paper.
(d) This paper consists of 12 printed pages.
(e) Candidates should check the question paper to ascertain that no printed pages and questions are missing.
(f) Candidates should answer all the questions in English.

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	20	
2	25	
3	20	
4	15	
TOTAL		

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

COMPREHENSION

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

Unscrupulous as he was, Kwame Asante had a qualm as he looked at the woman sitting on the African stool near the bed. He had called her and yet when she came he did not quite know how to begin the conversation.
"Akosua, how would you like fifty pounds to start a small business of your own – selling cloths or perfume and powder?" The woman smiled nervously. Ten years of married life had made her wary of her husband's fits of generosity.
She was as black as ebony, with the fine features peculiar to the girls of the Akwapim hills; graceful in her brown and red design cloth and the lovely silk head-tie wrapped round her head. Her feet were shod in 'spitfire' sandals and on her tiny ears she had the popular golden ear-rings named 'Abongo'.
The slender woman on the stool was the mother of three children though she still looked a girl. Married under the native customary law, she had served her lord and master with zeal and zest. It is a law which as some other law in the Gold Coast, needs disinfecting for though it aids the man to gain his desire when it is at its fiercest, it in no way safeguards the position of the woman when the man's passion abates.
"Would you like fifty pounds?" asked Kwame again. "Could make it a hundred. You have been a very good wife to me, Akosua." Did the truth begin to dawn on the woman's consciousness? No. She thrust the thought away from her. 'He could not do it'.
Kwame cleared his throat – after all he might as well get it off his chest: hadn't she noticed that the whole relationship had become impossible? A cloth woman was all right when one was young and struggling. She could be so useful – a general servant, and yet a wife. Akosua was so gentle, and even quite refined, but a man needs a change. He had just completed his two-storied building and he had been made a committee member of an important club. The other day his academy had conferred on him an associateship and his university had given him a coveted degree. He had at last achieved his ambition and had become an important man in the community. He was thinking seriously of entering the town council.
Fancy being addressed councilor Kwame Asante, O.B.A…. A.S.S. He smiled inanely to himself. Akosua looked at him in wonder.
"Er….. er…. Akosua…., I want to tell you I am going to marry a lady; you will be paid off with a hundred pounds. A…. frock….. lady….um…..er …. of course you can read and write Ga and Twi but my friends will call you an illiterate woman."
"Did you consult your friends before you married me ten years ago?" The voice was cold and calm, yet the words cut like a whip.
"If you are going to be impertinent, I shall not discuss the matter further." He got up and walked up and down the room. "How many men in the Gold Coast will pay a woman off with one hundred pounds? You are only entitled to twenty-five pounds and here I am out of kindness offering you a hundred. Show some gratitude, Akosua." Akosua looked at him. Stark misery was in her eyes.
"I shall send the children to Achimota College." There was a whining note in his voice. "I am only doing this because of my position in society. You see I may be called to Government House and other important places……. say something Akosua.
"I say you can keep your twenty five pounds, fifty pounds or a hundred pounds. I will have nothing to do with it. I will not be paid off.
"What! What! Come! Come! Don't do anything rush!"
"If you dare touch me I shall strike your face."
"Strike your master, your husband! Are you mad?"
"I shall leave this house."

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

"If you dare to disgrace me by leaving the house before I am ready for you to go, there will be trouble. I do not intend to put up with a willful woman. What is my sin after all? I only want to become a decent and respectable member of society. If you leave this house without my knowledge and permission, I shall claim every penny I have spent on you since I married and lived with you these ten years; and not only that but I shall claim all the presents I have given to your parents and other relatives. You know our native customary law."
"Yes, I know your native customary law. It is a grave to bury women alive whilst you men dance to the tom-tom on top of the mound of earth."

Questions

i) Why does Akosua smile nervously when Kwame offers her fifty pounds to start a small business of her own? (2mks)

……

……

……

……

ii) Explain the effect of Akosua's silence on Kwame? (2mks)

……

……

……

……

iii) In not more than 60 words, summarize the reasons for Kwame's intention to marry another wife. (4mks)

……

……

……

……

……

……

v) Identify a statement from the passage which proves that Kwame was ashamed of the action he was about to take. (1mk)

……

……

……

……

……

vi) What is Kwame Asante's burning ambition? (1mks)

……

……

……

……

vii) Rewrite the following sentence in reported speech

'*Did you consult your friends before you married me ten years ago?*' *Akosua asked Kwame.*

(1 mks)

……

……

……

……

viii) Give an instance of irony in the passage. (2mks)

……

……

……

……

ix) 'It is a grave to bury women alive whilst you men dance to the tom-tom on top of the grave.'

Explain the meaning of this statement. (2 marks)

……

……

……

……

x) What is Kwame's attitude towards women? (2mks)

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

xi) Explain the meaning of the following words and phrases as used in the passage. (3 mks)

a) Disinfecting ……

b) The words cut like a whip ……

c) Impertinent ……

LITERARY APPRECIATION:

Blossoms of Savanna

Read the following excerpt and answer the questions that follow.

"No Joseph," she said in an **infantile** whimper. "Ican't bear that we can't express the love that we have for one another because of some **primitive** culture. If by loving you, I offend the sensibilities of Nasila then let me offend and face the consequences of doing so!"

"I also love you very much," Joseph Parmuat responded finally. "I loved you the moment I saw you during your father's homecoming ceremony. But then the clan matter came to separate us. It is true we have no blood relation. But Nasila culture dictates who are related and who are not. We are slotted among those who cannot marry."

"No, it can't be, I cannot accept its verdict," she said **petulantly** her words agonised. "No way, never!" She stopped, confused and angry with herself at her inarticulate outburst. She took several long steadying breaths and then said, "I cannot accept that a culture that does not feed,clothe or house me comes to control my life. Our lives belong to us, Joseph. The **destiny** of our lives is in our own hands. We should guard it jealously." At last they drew a little a part. His eyes were open, honest and steady upon her face.

Questions

a) What happens before this excerpt? (3mks)

……

……

……

……

……

b) For both Joseph and Taiyo, give and illustrate two character traits. (4mks)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

c) How is dialogue significant in this excerpt? (4mks)

……

……

……

……

……

d) Explain any two thematic concerns addressed in the excerpt.(4mks)

……

……

……

……

……

e) From elsewhere in the novel, how does Joseph sacrifice for his love for Taiyo (4mks)

……

……

……

……

……

f) Explain the meaning of the following vocabulary as used in the excerpt. (4mks)

a) Destiny

……

……

……

b) Infantile

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

c) Petulantly

……

……

……

d) Primitive

……

……

……

g) What happens immediately after this extract? (2mks)

……

……

……

……

……

ORAL LITERATURE

The Man, His Son and The Squirrel

There was a certain town whose only occupation was catching squirrels (ground squirrels). There was a man in this town who excelled at catching squirrels. One squirrel was so smart that it eluded everyone in town. It was said that only this man said to his son, "Come, let's go to catch the squirrel." They took an axe; they found the squirrel near its hole. Then the squirrel ran and entered its hole. They searched out all the holes, then they stopped them up. Then the man said to his son, "Don't let the quirrel get out of its hole." He answered, "Okay." But one hole wasn't stopped up, and the squirrel escaped. When it escaped, the father came to his son and said to him, "Why did you let it escape? If I go home now, I will be ashmed." He grabbed the axe and struck his son. Then he went on his way and left his son unconscious. Ants began to fill his eyeballs an his ears; vultures were circling above him.

In the afternnon, the headman of a rich caravan arrived at the spot. When he arrived, he setp up camp. Then he got up and went for a stroll and saw the boy. He called his slaves to take him and have him washed and shaved. The boy recovered. The headman had no offspring. When he took the boy, he decided that he would make him his son. He sent a message to the chief of the town, telling him that he had an offspring, that he was happy he had become a complete man, and that he would now receive the gifts due to him.

The chief said, "This is a lie. He is not his son. If he is his son, then let him come that I can see." Then the headman arrived in town. The chief gave his sons horses worth ten pounds. He said, "Go and join the son of the headman. Have a race. When you finish give these horses away" (forcing him to do the same). They did it and they returned. the next day, the chief again gave them horses worth ten pounds. They did as the day before.

They did it five times. They ran out of horses. Then the chief said, "Indeed, it is his son I have run out of horses. If it weren't his son, he wouldn't agree to let him give his own horses away to match the presents." Then the chief summoned his daughter. The Gralladima brought his to help. The Madaki also gave, and the Makama gave. Altogether, four wives. The chief gave a big house. The headman came and brought twenty concubines and gave to his son. There was continuous feasting.

Then one day the son saw his father, the one who had knocked him down with the axe because of the squirrels. The father came to the house of his son and said, "Throw away your gown and start catching squirrels." The slaves of the headman said, "This is a crazy man, let us all strike him." The boy said to him, "This is my father, the one who sired me." The headman said, "I have already lied to the chief. Let us keep that secret. I will give your father wealth. Let him go home. Should he want to see you, let him come to visit you. If you want to see him, then you can go and visit him." The real father said he did not agree. Then the headman said, "Well then, let us go out in the countryside." They went. The headman unsheathed his sword. He handed it to the son, and said, "Kill one of the two of us." Here ends the story.

Questions

(a) **(**i) Classify the above narrative. (1 mk)

……

……

(ii) What are the characteristics of the above classification? (2 mks)

……

……

……

……

(i) What is the function of this narrative? (1 mk)

……

……

……

(b) Identify and illustrate any <u>three</u> features of oral narrative evident in the story. (6 mks)

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

(c) Give <u>one</u> economic activity that is undertaken by the community referred to in this narrative. (2 mks)

……

……

……

(d) Describe the character of the following:

(i) The young man (2 mks)

……

……

……

……

(ii) his father (2 mks)

……

……

……

……

(e) Whom do your think would be the most appropriate audience of this story. (2 mks)

……

……

……

……

(f) What is the moral lesson of this narrative? (2 mks)

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

GRAMMAR

A. Rewrite the following sentences as instructed.

(i) (a) The photographs will be taken at the venue of the wedding. The photographs will be taken in a reputable studio. (Combine into once sentence using 'either …..or,,,,') 1 mk)

……

……

……

(b) Neither the children nor the peasant ……allowed to go to the hall yesterday. (Rewrite filling the blank with an appropriate auxiliary verb). (1 mk)

……

……

……

(ii) (a) The principal noticed serious laxity among the students. He warned them against such behaviour. (Combine the sentence using present participle.) (1 mk)

……

……

……

(b) The farmer's cow gives twenty-five kilos of milk everyday. He feeds and waters it very well. (Combine using the present participle). (1 mk)

……

……

……

(iii) Underline the gerund in the following sentence.

Kibet is studying but swimming is his hobby. (1 mk)

(iv) Replace the underlined word with a phrasal verb.

(a) It is not good to despise other people. (1 mk)

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(b) I am currently <u>living</u> with my brother in Karen. (1 mk)

……

……

(c) The principal was <u>annoyed</u> with the three boys. (1 mk)

……

……

B. Rewrite the following sentences correcting the errors.

(i) There are situations of which you need to act with speed or else the consequences will catch up with you. (1 mk)

……

……

(ii) She likes football as it is more superior than hockey. (1 mk)

……

……

C. Fill in the blanks with the appropriate prepositions.

(i) He was charged **……**forging property inheritance document. (1 mk)

(ii) Kamau deals **……..**groceries. (1 mk)

D. Give two meanings from the sentence below.

"Did you see the girls with a telescope?" (1 mk)

……

……

……

E. Use the correct form of the words in the brackets to fill in the blanks.

(i) The couple has applied for a divorce over **……..……**differences. (reconcile). (1 mk)

(ii) That matter is highly **……..**(contest) in a court of law. (1 mk)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

ENGLISH

PAPER 3

(CREATIVE COMPOSITION AND ESSAYS BASED ON SET TEXTS)

TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

a) Answer **three** questions only
b) Questions **one** and **two** are compulsory
c) In question three choose only **one** of the optional texts you have prepared on.
d) Where a candidate presents work on more than one optional text, only the first to appear will be marked
e) Each of your essay must not exceed **450** words
f) All answers should be written in the answer booklet provided
g) This paper consists of **2** printed pages
h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing
i) Candidates **must** answer **ALL** questions in English

For Examiner's use only

Question	*Maximum Score*	lent's Score
1.	**20**	
2.	**20**	
3.	**20**	
Total	**60**	

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

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

1. Imaginative Composition (Compulsory)

Either
(a) Write a story that ends with the following sentence.
I never believed that I would see Kisali again.

Or
(b) Write a composition explaining what Kenyan youths can do to help in the fight against corruption.

2. The Compulsory Set Text

Relationships are bound to disintegrate where one party feels superior,' Using examples from Henrik Ibsen's A Doll's House, justify this statement.

3. The Optional Set Texts

Answer any **one** of the following three questions.

Either

(a) The Short Story

Memories We Lost and Other Stories'

Using Leo Tolstoy's story "How Much Land Does Man Need," write an essay to prove that "He who wants all loses all."

Or

(b) Drama

David Mulwa, Inheritance

The peace, stability and growth of a nation is dependent on the people in leadership. Write an essay in support of this assertion using illustrations from Inheritance.

Or

(c) The Novel

John Steinbeck, The Pearl

Kino was never meant to be rich. Discuss using The Pearl as basis for your argument.

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

312/1
GEOGRAPHY
PAPER 1
TIME: 2 ½ HOURS

Instructions

1. Attempt all the questions
2. The paper comprises of two sections A and B
3. Use the spaces provided to answer section A.
4. Use separate foolscaps to answer each question in section B.

SCORE SHEET	
SECTION A	
QUESTION 6	
QUESTION 7	
QUESTION 8	
TOTAL	

SECTION A

Answer all the questions in this section

1.a) State two forces that shape the surface of the earth. (2mks)

b) State three characteristics of the crust. (3mks)

2. Describe how exfoliation dome is formed. (5mks)

3. a) Distinguish between a coast and a shore. (2mks)

b) State three conditions necessary for the formation of a spit. (3mks)

4. a) State three ideal conditions for the formation of an artesian well (3mks)

b) Give two ways in which underground water may reach the earth surface. (2mks)

5.The diagram below shows vegetation zones on a mountain slope. Use it to answer question (a)

a) Identify the vegetation zones marked P and Q (2mks)

b) State three characteristics of savanna vegetation. (3mks)

SECTION B

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

6. Study the map of Belgut sheet 117/3 and the following questions.

a i) Give the six figure grid reference for Teldet school in the North. (2mks)

ii) What is the approximate area of Homa Bay district found on the map extract. (2mks)

b) i) Give the direction and bearing of Mindililwet school from Chebirbei junction. (2mks)

ii) Measure the distance of river Sondo from Northing 50 to the end in the West. (2mks)

c. Draw a rectangle representing the area West of Easting 30 and North of Northing 50. (2mks)
On it mark and name the following:

i) River Sondo (1mk)
ii) Sikowon hill (1mk)
iii) Iii)All weather road bound surface. (1mk)
iv) Papyrus swamp (1mk)

d) i) Citing evidence from the area covered by the map, name any 2 social activities taking place in Kebenet. (2mks)

ii) Give two uses of river Sondo in the area through which it flows. (2mks)

iii) Explain 3 factors that have influenced the growing of Tea in area covered by the map (use evidence) (6mks)

iv) Name two types of settlement found at grid 2457. (1mk)

7. (a) (i) Define the term vulcanicity. (2mks)

(ii) Name **two** features resulting from fissure eruptions. (2mks)

(b) With the aid of a diagram, describe the formation of the following intrusive features:- (9mks)

(i) Sill.

(ii) Dyke.

(iii) Batholith.

(c) Explain **three** positive effects of vulcanicity to human activities. (6mks)

(d) You have been asked to carry out a field study in Mount Kenya on vulcanicity.

(i) State **three** methods you would use to collect your data. (3mks)

(ii) Name **three** follow-up activities you will undertake. (3mks)

8.a) i) Distinguish between soil profile and soil catena. (2mks)

ii) State two importance of minerals (inorganic matter) in the soil. (2mks)

b. i) Explain how the following factors influence soil formation:

a) Climate (3mks)

b) Living organism (3mks)

c) Describe calcification as a leaching process in soil formation. (3mks)

d) i) What is soil degeneration? (1mk)

ii) Identify two types of soil degeneration. (2mks)

e) Explain three ways in which vegetation protects the soil from degeneration. (6mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

312/2
GEOGRAPHY
PAPER 2
TIME: 2 ½ HOURS

Instructions

1. The paper comprises two sections A and B.
2. Answer the questions in section A in the spaces provided.
3. In section B, answer each question on separate foolscaps.
4. Attempt all the questions.

SECTION A	
QTN 6	
QTN 7	
QTN 8	
TOTAL	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION A

1.a) Name two tree species of high commercial value in a coniferous forest. (2mks)

b) State three characteristics of Tropical hardwood forests which hinder exploitation. (3mks)

2. State two factors that influence exploitation of minerals. (2mks)

b) Describe how soda ash is extracted in Lake Magadi. (3mks)

3.a) i) Distinguish between population distribution and population density. (1mk)

ii)What is dependency ratio? (1mk)

b)State three reasons for reduced fertility rate in Kenya. (3mks)

4. a) i)Name two dairy cattle breeds reared in Kenya. (2mks)

b)State three differences between beef farming in Argentina and Kenya. (3mks)

5.a)Give two advantages of wood as a source of fuel. (2mks)

b)State three conditions necessary for the formation of Oil. (3mks)

SECTION B

6. Study the table below that shows Kenya's visible balance of Trade with some selected countries. 1982-1984 (figures in pounds '000).

County	**1982**	**1983**	**1984**			
	Exports	**Imports**	**Exports**	**Imports**	**Exports**	**Imports**
UK	72,000	135,000	96,000	120,000	140,000	152,000
Germany	60,500	75,5000	82,000	70,000	98,000	98,000
USSR	4,500	150	3,000	100	4,000	300
U.S.A	35,000	54,000	40,000	56,000	38,000	50,000
Uganda	58,000	1,300	7,2000	800	67,000	100,000

a)i) Draw a comparative line graph showing the exports from 1982 to 1984 using a vertical scale of 1:10 million and horizontal scale. (8mks)

ii) State three disadvantages of this graph experienced during the construction. (3mks)

b) i) Define balance of trade. (2mks)

ii) Calculate the balance of trade for Kenya 1984. (2mks)

c. i) Name two major exports and two major imports of Kenya. (4mks)

ii)Give three reasons for the nature of Kenya's balance of trade from the table above. (3mks)

d) State three measures the government has taken to achieve a favourable balance of trade.

7.a) i) Name two provinces in Canada where wheat is grown. (2mks)

ii) Explain four physical factors favouring wheat growing in Kenya. (8mks)

b) Compare wheat farming in Kenya and Canada under the following headings:

- cultivation (2mks)
- harvesting (2mks)
- marketing (2mks)

c. i) Explain three human and economic problems facing wheat farming in Canada. (6mks)

ii) State three importance of wheat farming in Canada. (3mks)

8.a.i) Name two countries found in the north West pacific fishing ground. (2mks)

ii) Explain four physical factors that favour fishing in the above fishing ground. (8mks)

b) Describe the following methods of fishing:

i) drifting (4mks)
ii) purse seine (4mks)

c) compare fishing in Kenya and Japan under the following sub-headings:

i) fishing ground (2mks)
ii) climate (2mks)

d) State 3 significance of fishing to the economy of Kenya. (3mks)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

311/1
HISTORY & GOVERNMENT
PAPER 1
TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

(a) This paper consists of three sections: A, B and C.
(b) Answer all questions in this paper.

MARK TABLE

SECTION A	17	18	19	20	21	22	TOTAL

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION A (25 MARKS)

1. How can anthropology be used to source information on history and government.(1 mk)

2. Identify one ageset among the Nandi. (1 mk)

3. Give two positive contributions of Seyyid said to the economy of Kenyan coast upto 1700 AD. (2 mks)

4. Identify the main cause of political conflicts in Kenya. (1 mk)

5. Give the main cause of political conflicts in Kenya. (1 mk)

6. Give two remedies that have been employed to curb food shortages in Kenya. (2 mks)

7. State two main features of the 1962 constitution of Kenya. (2 mks)

8. Give two rights of persons with disabilities in Kenya. (2 mks)

9. Identify one role of religion during the Agiriama resistance. (1 mk)

10. Give one impact of local government in colonial Kenya. (1 mk)

11. State two roles of Africans in the provision of health services during the colonial period. (2 mks)

12. Give two ways in which the first World War contributed to African political awareness in Kenya. (2 mks)

13. Give one contributed of Daniel Moi in environmental conversation in Kenya. (1 mk)

14. State two functions of the County Executive Committee. (1 mk)

15. Identify one settlement scheme established by the government in former European farms. (1 mk)

16. State two achievements of the Kenya African Democratic Union if Kenya. (2 mks)

17. Identify one principle of public finance in Kenya. (2 mks)

SECTION B (45 MKS)

18. (a) State five factors that facilitated he coming of Arabs to the Kenyan coast by 1500 AD. (5 mks)

(b) Explain five factors that contributed to the decline of early city states along the Kenyan coast. (10 mks)

19. (a) Give three reasons for the rise of independent churches during the colonial period. (3 mks)

(b) Explain six problems that were encountered by Trade Unions during the colonial period. (12 mks)

20. (a) Give three reasons why Africans were denied the right to grow cash crops during the colonial period. (3 mks)

(b) Explain six problems faced by settlers in colonial Kenya. (12 mks)

SECTION C (30 MKS)

21. (a) Give three reason that may lead to the impeachment of a government from officer. (3 mks)

(b) Explain six challenges facing county governments. (12mks)

22. (a) Give five contributions of professor Wangari Maathai to the environmental conservation efforts ion Kenya. (5 mks)

(b) Describe the main features of African socialism. (10 mks)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

311/2
HISTORY & GOVERNMENT
PAPER 2

TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

(c) This paper consists of three sections: A, B and C.
(d) Answer all questions in this paper.

MARK TABLE

SECTION A	17	18	19	20	21	22	TOTAL

SECTION A (25 MKS)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

Answer all the questions

1. State two advantages of using electronics in History. (2mks)

2. Give the MAIN characteristic that distinguish man from other primates (1mk)

3. What two factors favoured the beginning of Agriculture during the new stone age period (2mks)

4. State two factors that facilitated Trans-Atlantic Trade. (2mks)

5. Give one way in which road carnage affects the Economy of a country. (1mk)

6. Identify one form of picture writing during the early civilization. (1mk)

7. State two uses of water as an early source of energy in industries. (2mks)

8. Identify two challenges faced by Athens as a ancient urban centre. (2mks)

9. State one way through which trade contributed to the rise of Asante Empire during the 19^{th} century. (1mk)

10. Identify one way through which Europeans maintained peace among themselves during partition of African. (1mk)

11. State two factors that facilitated application of indirect rule in the Northern Nigeria. (2mks)

12. Mention two political challenges facing African states since independence. (2mks)

13. Identify the names of the two camps that fought during the First World War. (2mks)

14. Give one reason that contributed to the collapse of the ujamaa policy in Tanzania. (1mk)

15. Name the organization that replaced Preferential Trade Area (PTA). (1mk)

16. Identify one weapon used during cold war. (1mk)

17. Give one way in which a person can become a member of parliament in Britain. (1mk)

SECTION B (45 MARKS)

Answer any 3 questions

18. a) State five factors that facilitated the scientific revolution. (5mks)

b) Explain 5 factors that enabled West Germany to recover after the world war. (10mks)

19. a) State 3 reasons for Lewanika's collaboration with the British. (3mks)

b) Describe the political organization of the Asante in the pre-colonial period. (3mks)

20. a) Give 3 causes of army muting Democratic Republic of Congo in 1960.(3mks)

b) Explain political development in Tanzania since independence. (12mks)

SECTION C (30 MARKS)

Answer any three questions.

21. a) State five characteristics of the common wealth states . (5mks)

b) Explain five achievements of common wealth to its members. (10mks)

22. a) State three reasons for the failure of Schlieffen plan during first world war. (3mks)

b) Explain six reasons for the Allies Victory during Second World War. (12mks)

JINA: ……..

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

SHULE: ……..

BRILLIANT STUDENT PRE-MOCK 3 EXAMS

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

102/1
KISWAHILI
KARATASI YA 1
(INSHA)
MUDA: SAA $1\frac{3}{4}$

MAAGIZO:

- Andika insha mbili. Insha ya kwanza ni ya **lazima**
- Kisha chagua insha moja nyingine kutoka kwa hizo tatu zilizobakia.
- Kila insha isipungue maneno 400
- Kila insha ina alama 20
- Karatasi hii ina kurasa 2. Matahiniwa ni lazima aangalie kama kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo

1. **SWALI LA LAZIMA**.
   Visa vya dhuluma dhidi ya mtoto wa kike vimeongezeka sana nchini.Andika taarifa ya hali hii nchini.

2. Uhifadhi wa mazingira una manufaa mengi kwa binadamu .Thibitisha.

3. Kutangulia si kufika.

4. Malizia kwa……tulifukumana huku nyuso zetu zikiwa na tabasamu la matumaini.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

JINA: ……..

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

SHULE: ……..

BRILLIANT STUDENT PRE-MOCK 3 EXAMS

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

102/2
KISWAHILI
Karatasi ya 2
LUGHA
Saa 2 ½

Maagizo

(a) Andika jina lako na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
(b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu
(c) Jibu maswali **yote.**
(d) Majibu yako yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.
(e) Majibu yote ni **lazima** yaandikwe kwa lugha ya Kiswahili.
(f) Usitoe ukurasa wowote kutoka kwenye kijitabu hiki.
(g) Karatasi hii ina kurasa 10 zilizopigwa chapa.
(h) Watahiniwa ni lazima wahakikishe kuwa kurasa zote
(i) zimepigwa chapa sawasawa na kuwa maswali yote yamo.

Swali	Upeo	Alama
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

UFAHAMU: (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali.

Tokea muundo mpya wa serikali ya ugatuzi uanze kutekelezwa miaka miwili iliyopita, kumeendelea kushuhudiwa matatizo mengi hali iliyopelekea kushuhudiwa kwa msururu wa migomo na maandamano ya raia.Fujo za karibuni kabisa ni zile zinazoshuhudiwa katika miji mikubwa za wachuuzi na wafanyibiashara wakipinga hatua za serikali za kaunti kuwatoza ushuru takribani kwa kila huduma na bidhaa ikiwemo wanyama,kuku na ndege.La kuhuzunisha zaidi katika baadhi ya majimbo imeripotiwa kuwa raia wamelazimishwa kulipa ushuru kwa kutaka tu kuona maiti za jamaa zao kwenye vyumba vya kuhifadhia maiti!

Wanasiasa wameonekana kuwa na wakati mgumu kutetea mfumo huu mpya wa ugatuzi huku baadhi wakisema kwamba matatizo yanayoshuhudiwa kwa sasa yametokana na ugeni wa mfumo huo.Wengine wameinyoshea kidole serikali ya kitaifa kwamba ndiyo inayosambaratisha muundo huu.Wengine wanahoji kuwa bado ni mapema na kwamba kunatajika muda mrefu ili kufaulu

Ni wazi kwamba kumekosekana nidhamu bora ya kusimamia maisha ya raia nchini Kenya.Matatizo yanayokumba raia kwa sasa ni dalili kuwa mfumo wa serikali ya ugatuzi umeongezea chumvi kwenye kidonda badala ya kutibu.Swali ni je,hadi lini nidhamu ya kusimamia raia itakuwa ni suala la majaribio na makosa?

Hatua ya kuwarundikizia raia ushuru mkubwa ni kitendo cha unyonyaji na cha dhuluma kinachofaa kupingwa. La kufahamishwa hapa ni kwamba ushuru ndio njia kubwa ya kuzalisha mapato ya serikali zinazojifunga na mfumo wa kimagharibi wa kiuchumi wa kibepari ikiwemo Kenya.Asilimia 90 ya mapato ya serikali za kibepari huegemea ushuru. Kwa hivyo hatua ya serikali za kaunti katika kuwanyonya raia kwa kuwalipisha ushuru si ajabu bali ni thibitisho kuwa jamii ya Kenya inaongozwa na nidhamu ya kiuchumi ya ubepari mfumo wa unyonyaji na ukandamizaji.Ukweli unabakia kuwa ndani ya serikali za kibepari raia ndio hubebeshwa mzigo wa ushuru unaoishia matumboni mwa viongozi!

Miito ya mabadiliko ya katiba na ya miundo mipya ya kiutawala si lolote ila ni moja tu ya hatua za mfumo wa kibepari kujipa muda wa kuishi na kuziba aibu zake za kushindwa kusimimia maisha ya watu.Kufeli huku kwa mfumo huu kunashuhudiwa hadi kwenye nchi kubwa za kibepari kama Marekani na Uingereza hivyo nazo zimekumbwa tele na maandamano na fujo za raia wakilalamikia hali ngumu ya maisha.

Maswali

a) Yape makala haya anwani mwafaka. (alama 1)

……

……

b) Eleza mtazamo wa wanasiasa kuhusu utepetevu wa mfumo huu. (alama 3)

……

……

……

……

……

c) "Ugatuzi nchini Kenya ni mfumo wa kibepari" Thibitisha kauli hii kwa kurejelea makala (alama 3)

……

……

……

……

……

d) Migomo ni zao la matatizo yaliyogatuliwa kutoka serikali kuu. Toa sababu nyingine zinazosababisha migomo katika serikali za ugatuzi (alama 4)

……

……

……

……

……

……

……

……

e) Thibitisha jinsi mfumo wa ugatuzi umeongeza chumvi kwenye kidonda badala ya kutibu (alama2)

……

……

……

……

……

f) Eleza maana ya maneno yafuatayo (alama 2)

(i) Ugatuzi

……

……

(ii) Kibepari

……

……

UFUPISHO (Alama 15)

Soma makala yafuatayo na ujibu maswali.

Mojawapo kati ya misingi na nguzo za maendeleo ulimwenguni ni viwanda. Viwanda ni muhimu kwa kuwa ndivyo vinavyoigeuza malghafi yanayopatikana na kuwa bidhaa zinazoweza kutumiwa na watu. Katika nchi zinazoendelea, ambazo hazina uwezo mkubwa wa mitaji, viwanda vinavyoimarika ni vile vidogo. Hivi ni viwanda ambavyo huhusisha amali za mikono. Kuimarika kwa viwanda hivi vidogo kunatokana na sababu mbalimbali.

Nchi zinazoendelea huwa na masoko finyu hasa kwa kuzingatia uwezo wa ununuzi wa wanaolengwa na bidhaa za viwanda. Katika msingi huu, viwanda vikubwa vitawiwa vigumu kufanya biashara katika mazingira ambako masoko yake ni finyu au utashi wa bidhaa zake sio mkubwa. Viwanda vidogo pia vina uwezo wa kuwaajiri wafanyakazi wengi hasa kwa kuwa havina uwezo wa kugharamia mashine.Uajiri huu wa wafanyakazi wengi ni muhimu katika maeneo mengi ambako tatizo la uajiri ni mojawapo wa matatizo sugu. Tofauti na mataifa ya kitasnia, mataifa yanayoendelea hayana mifumo imara ya kuwakimu watu wasiokuwa na kazi. Utegemezi wa jamaa wanaofanya kazi kwa hivyo unakuwa nyenzo ya pekee ya kuyamudu maisha.

Kuanzisha viwanda vidogo vidogo hakuhitaji mtaji mkubwa tofauti na viwanda vikubwa. Hali hii inasahilisha uwezekano wa watu wengi kujasurisha shughuli yoyote ile. Sambamba na suala hili ni kuwa ni rahisi kujaribisha bidhaa mpya kwa kiwango kidogo cha kiwanda kidogo. Ikiwa mzalishaji yeyote atazalisha bidhaa mpya kwa mapana, kwa mfano kama ilivyo kwa viwanda vikubwa, pana uwezekano wa kupata hasara kubwa. Huenda utashi wa bidhaa hizo uwe mdogo ukilinganishwa na ugavi wa bidhaa zenyewe.

Majaribio mazuri huwa ni kwa kiwango kidogo. Kuwepo kwa viwanda vidogo huwa ni chocheo kubwa la usambazaji wa viwanda hadi maeneo ya mashambani. Hali hii inahakikisha kuwa nafasi za ajira zimesambazwa nchini hali ambayo inasaidia kuhakikisha kuwa pana mweneo mzuri wa kimapato nchini. Mweneo huu wa mapato unachangia katika kuboresha uwezo wa kiununuzi wa umma. Huu ni msingi muhimu wa maendeleo. Upanuzi na ueneaji wa viwanda vidogo vidogo ni msingi mkubwa wa kujitegemea kiuchumi. Aghalabu viwanda vikubwa huegemea kwenye mitaji ya mashirika ya kimataifa na huwa msingi wa kuendelezwa kwa utegemezi wa kiuchumi.

Licha ya faida zake, ueneaji au kutanda kwa viwanda hukabiliwa na matatizo mbalimbali. Tatizo la kwanza linahusiana na mtaji. Lazima pawepo na mbinu nzuri za kuweka akiba ili kuwa na mtaji wa kuanzishia biashara. Njia mojawapo ya kufanya hivi ni kwa kutegemea masoko ya mitaji ambayo katika mataifa mengi hayajaendelezwa vyema. Inakuwa vigumu katika hali hii basi kupata pesa kwa uuzaji wa hisia kwenye masoko hayo.

Tatizo jingine linalotokana na ukosefu wa mikopo ya muda mrefu ya kibiashara kwa wenye viwanda vidogo vidogo. Mikopo ya aina hii huwa muhimu hasa pale ambapo anayehusika ana mradi wa kununua vifaa kama mashine. Mikopo ya muda mfupi inayopatikana kwenye mabenki huweza kuwashinda wengi kutokana na viwango vya riba kuwa juu. Haimkiniki kwa viwanda kama hivi kukopa kutoka nje ya nchi zao. Juhudi za kuendeleza viwanda hivi huweza pia kukwamizwa na tatizo la kawi kama vile umeme. Gharama za umeme huenda ziwe juu sana. Isitoshe, si maeneo yote ambayo yana umeme. Matatizo mengine huhusiana na ukosefu wa maarifa ya kibiashara, ukosefu wa stadi za ujasiriamali au kuwa na ujasiri wa kujiingiza kwenye shughuli Fulani na miundo duni.

Ili kuhakikisha kuwa viwanda vimekuzwa na kuendelezwa pana haja ya kuchukua hatua kadha. Kwanza, kuwepo na vihamasisho kwa wanaoanzisha viwanda vidogo vidogo kama vile punguzo la kodi, kuhimiza kuanzishwa kwa viwanda vidogo vidogo na kusaka kuyapanua masoko kwa ajili ya bidhaa zinazozalishwa na viwanda hivyo. Aidha kuanzishwa na kupanuliwa kwa taasisi za kuendeleza upanuzi huo. Pana haja ya kuwekeza kwenye rasilimali za kibinadamu; kuelimishwa na kupanua uwezo wao wa kuyaelewa mambo mbalimbali. Miundo msingi haina budi nayo kupanuliwa na kuimarishwa.Upo umuhimu pia wa kuongeza kasima inayotengewa maendeleo na ukuzaji wa viwanda ili kuharakisha maendeleo yake pana umuhimu wa kupambana na ufisadi unaoweza kuwa kikwazo kikubwa. Inahalisi kutambua ikiwa viwanda vitatanda nchini, uchumi wa nchi nao utawanda.

(a) Kwa **maneno 65-75,** eleza ujumbe muhimu unaopatikana katika aya ya pili hadi ya nne. **(alama 8,1 utiririko)**

Maandalizi

……

……

……

……

……

……

……

……

Jibu

……

……

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

……

……

……

……

……

……

……

……

(b) Kwa **maneno (50-55)** fafanua mambo yanayotinga ukuaji wa viwanda. **(alama 5, 1 utirirko)**

Maandalizi

……

……

……

……

……

……

……

Jibu

……

……

……

……

……

……

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

MATUMIZI YA LUGHA (alama 40)

a) Andika sentensi ifuatayo katika hali ya ukubwa (alama 2)

Nyuso za vijana wale zilichujuka walipoanguka

……

……

……

b) Tumia **KI** katika sentensi kuonyesha masharti yanayowezekana (alama 2)

……

……

……

c) Tunga sentensi sahihi ukitumia kitenzi **'abudu'** katika kauli ya kutendesheana (alama 2)

……

……

……

……

d) Akifisha (alama 4)

aisee yale mawimbi ya tsunami yaliyotokea bahari hindi yaliangamiza biashara nyingi sana alisema bomet

……

……

……

……

e) Changanua sentensi hii kwa njia ya mstari. (alama 4)

Rais alihutubu lakini walimpuuza

……

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

f) Huku ukitolea mfano eleza tofauti kati ya kishazi huru na kishazi tegemezi (alama 3)

……

……

……

……

g) Ainisha sentensi ifuatayo kwa kuzingatia jukumu lake (alama 2)

Pika ugali kwa kuku kila Jumamosi ukitumia gesi

……

……

……

……

h) Tunga sentensi moja ya kuonyesha rai (alama 1)

……

……

……

j) i Eleza maana ya chagizo (alama 2)

……

……

……

……

ii. Bainisha chagizo katika sentensi ifuatayo (alama 1)

Shamba lilipaliliwa haraka na mkulima

……

……

……

k).Andika katika usemi wa taarifa (alama 3)

“Hicho kijicho cha paka cheupe leo marufuku kwangu” alisema Mzee Kambumbu

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

l)Tunga sentensi moja ukitumia kitenzi kimoja kilichoundwa kutokana na nomino **zawadi** (alama 2)

……

……

……

……

m). Tambua matumizi ya kiambishi **ji** katika sentensi ifuatayo (alama 2)

Jino la jitu hilo lililiwezesha kujilia chakula kingi kuliko mkimbiaji yule

……

……

……

……

n) Tunga sentensi moja kuonyesha maana ya neno: **ilmradi.** (alama 2)

……

……

……

o) Andika sentensi moja ukitumia kihisishi cha bezo (alama 1)

……

……

……

p) Ainisha viambishi katika neno **waliibiana** (alama 2)

……

……

……

……

q) Nini maana ya kiimbo? (alama 1)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

r) (i) Vokali ni nini? (alama 1)

……

……

……

(ii) Eleza sifa mbili za sauti ifuatayo **/i/ (**alama 2)

……

……

……

……

s) Panda ni kuatika mbegu ardhini au kuparaga mti. Andika maana nyingine mbili (alama 2)

……

……

……

……

ISIMU JAMII (Alama 10)

a. Eleza nadharia tatu kuhusu chimbuko la Kiswahili. (alama6)

……

……

……

……

……

……

……

……

……

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

b. Fafanua istilahi zifuatazo: (alama 4)

i. UwiliLugha

……

……

ii. LinguaFranka

……

……

iii. Misimu

……

……

iv. Sajili

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

JINA: ……..

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

SHULE: ……..

BRILLIANT STUDENT PRE-MOCK 3 EXAMS

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

Hati ya Kuhitimu Kisomo cha Sekondari Kenya (K.C.S.E)

102/3
Fasihi ya Kiswahili
Karatasiya 3
MUDA: SAA 2 ½

MAAGIZO KWA MTAHINIWA:

1) Andika jina lako, nambari ya mtihani na tarehe katika karatasi ya majibu.
2) Karatasi hii ina sehemu tano: A, B, C, D na E.
3) Jibu maswali ***manne pekee***. Kila swali lina alama ishirini.
4) Swali la ***kwanza*** ni la ***lazima***.
5) Chagua maswali mengine ***yoyote matatu*** kutoka sehemu zilizosalia; B, C, D ama E.
6) Usijibu maswali ***mawili*** kutoka ***sehemu moja***.
7) Majibu yote yaandikwe kwa ***Kiswahili*** katika ***karatasi ya majibu*** uliyopewa.

Sehemu hii imehifadhiwa kwa matumizi ya mtahini pekee

SWALI	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
UPEO	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
ALAMA								

JUMLA

UPEO	**80**
ALAMA ZA MTAHINIWA	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SEHUMU YA A

TAMTHILIA: KIGOGO

(Pauline Kea)

1. "Ni laghai siwaamini. Wanasema wanakwenda huku na mara…"

a) Eleza muktadha wa dondoo hili. (Alama 4)

b) Eleza mbinu ya lugha iliyotumiwa katika dondoo hili. (Alama 2)

c) Eleza sifa na umuhimu wa mzungumzaji. (Alama 6)

d) Fafanua jinsi wanaorejelewa na mzungumzaji walivyo laghai. (Alama 10)

SEHEMU YA B

RIWAYA: CHOZI LA HERI

(Assumpta K. Matei)

Jibu swali la ***Pili*** au la ***Tatu***

2. "Watu husema kuwa binadamu hawawi sawa ila kifoni…"

a) Eleza muktadha wa maneno haya. (alalama 4)

b) Tambua mbinu moja ya lugha iliyotumiwa katika dondoo hili. (alama 2)

c) Eleza sifa na umuhimu wa mzungumzaji wa maneno haya. (alama 6)

d) Thibitisha kuwa hakuna usawa baina ya wanadamu. (alama 8)

Au

3. Jadili nafasi ya sehemu zifuatazo katika riwaya ya Chozi la Hari:

(a) Hotuba (alama 10)

(b) Uozo katika jamii (alama 10)

SEHEMU YA C

HADITHI FUPI: TUMBO LISILOSHIBA NA HADITHI NYINGINE

(Alifa Chokocho na Dumu Kayanda- Wahariri)

Jibu swali la ***Nne*** ama la ***Tano***

NDOTO YA MASHAKA

4. "Sasa nimechoka mja. Nimechoka hata naradua kufa kuliko kuishi."
(a) Eleza muktadha wa dondoo hili. (alama 4)
(b) Taja mbinu mbili za lugha katika dondoo hili. (alama 4)
(c) Mzungumzaji alikuwa na haki ya kuradua kufa. Thibitisha. (alama 12)

Au

5. Ukirejelea hadithi zozote nne katika diwani ya Tumbo Lisiloshiba na Hadithi Nyingine, eleza jinsi maudhui ya Mapenzi na ndoa yanavyojitokeza (alama 20)

SEHEMU YA D

USHAIRI

Jibu swali la sita ama la saba

6. Soma shairi lifuatalo kasha ujibu masuali

Naogopa, kukupa wangu mtima, sitaki mie nilie
Naogopa, kutoa yangu kalima, eti wewe utulie
Naogopa, ninashindwa kusimama, wewe pete unitie
Naogopa, wanaume wanauma, ja panya wapulizie.

Naogopa, kwita wako mama mama, nami anikaripie
Naogopa, sipendi nyingi dhuluma, za wanaume nilie
Naogopa, kushinda nimeinama, goti mume nipigie
Naogopa, za mkemwenza hujuma, matusi anipatie.

Naogopa, uchungu ukiniuma, mwana nikakuzalie
Naogopa, kupigwa kama ngoma, ndiposa nikatulie
Naogopa, kila kitu kunisoma, ndo hela unipatie
Naogopa, kuitwa mwizi wa sima, ila nikuandalie.

Naogopa, dadazo kuwaandama, udaku wakanitie
Naogopa, kuuleta uhasama, mimi mnipiganie
Naogopa, koritini kusimama, mali tukashindanie
Naogopa, kumwaga wenu mtama, kuku niwamiminie,

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

Naogopa, naogopa ninasema, yabidi uvumilie
Naogopa, nawe babu kusimama, eti ndoa niingie
Naogopa, ndoto zangu kuzizima, hili doa nijitie
Naogopa, taa yangu kuizima, mwingine jitafutie.

(Meja S. Bukachi- Uketo wa Ushairi uk 24)

MASWALI

a) Lipe shairi hili anwani mwafaka. (Alama 1)
b) Eleza dhamira ya mtunzi wa shairi hili. (Alama 1)
c) Nani nafsi nenewa katika shairi hili? (Alama 1)
d) Taja tamathali za lugha zilizotumika katika shairi hili. (Alama 2)
e) Fafanua uhuru wa ushairi alioutumia malenga. (Alama 2)
f) Weka shairi hili katika bahari mbalimbali. (Alama 3)
g) Andika ubeti wa tatu kwa lugha nathari. (Alama 4)
h) Kwa nini nafsi neni anasita kuchukua hatua? (alama 4)
i) Vifungu vifuatavyo vina maana gani katika shairi? (alama 2)

i. Taa yangu kuizima
ii. Dhuluma

Au

7. Soma shairi lifuatalo kisha ujibu maswali

Ee mpwa wangu,
Kwetu hakuna muoga,
Uoga ukikufikia, huenda ni wa akina mamayo,
Fahali tulichinja ili uwe mwanamume,
Eewe mpwa wangu, kisu kikali ajabu!
Iwapo utatingisha kichwa,
Uhamie kwa wasiotahiri.

Wanaume wa mbari yetu,
Si waoga wa kisu,
Wao hukatwa kuanzia macheo hadi machweo,
Wewe ndiye wa kwanza,
Iwapo utashindwa,
Wasichana wote,
Watakucheka,
Ubaki msununu,
Simama jiwe liwe juu,
Ndege zote ziangamie.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

Simu nimeipokea,
Ngariba alilala jikoni,
Visu ametia makali,
Wewe ndiye wangojewa,
Hadharani utasimama,
Macho yote yawe kwako,
Iwapo haustahimili kisu,
Jiuzulu sasa mpwa wangu,
Hakika sasa mpwa wangu,
Hakika tutakusamehe, mwaka kesho unakuja.

Asubuhi ndio hii,
Mama mtoto aamushwe,
Upweke ni uvundo,
Iwapo utatikisa kichwa,
Iwapo wewe ni mume,
Kabiliana na kisu kikali,
Hakika ni kikali!

Kweli ni kikali!
Wengi wasema ni kikali!
Fika huko uone ukali!
Mbuzi utapata,
Na hata shamba la mahindi,
Simama imara,
Usiende kwa wasiotahiri

Maswali

(a) Hili ni shairi la aina gani? Thibitisha. (alama 2)

(b) Ni nani anayeimba shairi hili na analiimba kwa nani ? (alama 2)

(c) Toa ithibati kwenye shairi hili kuthibitisha kuwa msimulizi ana taasubi ya kiume (alama 2)

(d) Taja kwa kutolea mifano mbinu zozote nne za uandishi katika shairi hili (alama 4)

(e) Taja shughuli zozote **mbili** za kiuchumi za jamii inayorejelewa katika shairi hili (alama 2)

(f) Eleza kwa mifano, uhuru wa kishairi katika shairi hili (alama 4)

(g) Msamiati ufuatao umetumika kwa maana gani katika shairi hili? (alama 4)

(i) Mbari
(ii) Msununu
(iii) Ngariba
(iv) Uvundo

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SEHEMU YA E

FASIHI SIMULIZI

Soma utungo ufatao kisha ujibu maswali

Ikiwa kweli wewe ni mkazamwanangu,
Nami ndiye niliompa uhai mwana unoringia,
Anokufanya upite ukinitemea mate,
Chakula kuninyima, wajukuu kunikataza ushirika,
Miungu na waone chozi langu, wasikie kilio changu,
Mizimu na waone uchungu wangu,
Radhi zao wasiwahi kukupa,
Laana wakumiminie,
Uje kulizwa mara mia na wanao,
Usiwahi kufurahia hata siku moja pato lao,
Watalokupa likuletee simanzi badala ya furaha,
Wakazawanao wasikuuguze katika utu uzima wako!

(Kutoka: Assumpta K. Matei- Fani ya Fasihi Simulizi, uk 145)

Maswali

(a) Tambua kipera hiki cha fasihi simulizi (alama 2)
(b) Jinsia ya nafsi neni ni gani? (alama 2)
(c) Eleza sifa zozote sita za kipera hiki cha fasihi simulizi. (alama 6)
(d) Fafanua umuhimu wa kipera ulichokitaja hapo juu katika jamii. (alama 4)
(e) Fafanua njia sita jinsi jamii ya kisasa inavyojaribu kuendeleza fasihi simulizi. (alama 6)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

MATHEMATICS

Paper 1

2½ Hours

INSTRUCTIONS TO CANDIDATES

1. *Write your name, index number, signature and date in the spaces provided at the top of this page.*
2. *The paper contains two sections: Section I and Section II. Answer **ALL** the questions in Section I and **ANY FIVE** from Section II.*
3. *Show all the steps in your calculations, giving your answers at each stage in the spaces provided below each question.*
4. *Marks may be given for correct working even if the answer is wrong.*
5. *Silent non - programmable electronic calculators and KNEC Mathematical tables may be used unless otherwise stated.*

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

This paper consists of fifteen (17) printed pages.
Candidates should check the question paper to ensure that all the pages are printed as indicated and no questions are missing.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

Paper1 **section 1**(50marks)

1. Points S(-2,2) and T(-3,7) are mapped onto $S^1(4,-10)$ and $T^1(0,10)$ by an enlargement . Calculate the enlargement scale factor. (3marks)

2. Given that $\frac{1}{2x} = (0.732)^3 + \sqrt[3]{85.3}$, use mathematical tables to find the value of x in standard form correct to 3 significant figures (3marks)

3. Simplify $\frac{12x^2+ax-6a^2}{9x^2-4a^2}$ (3 marks)

4. All prime numbers less than ten are arranged in ascending order to form a number.

(a) Write down the number formed (1 mark)

(b) Express the number in (a) above in expanded form (2 marks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

5. A two digit number is such that the one's digit is four more than the tens digit, and the sum of the digits is 14. Find the number (3 marks)

6 Paul bought a refrigerator on hire purchase by paying monthly instalments of Ksh. 2000 per month for 40 months and a deposit of Ksh. 12,000. If this amounted to an increase of 25% of the original cost of the refrigerator, what was the cash price of the refrigerator? (3 marks)

7. Find all the integral values of x which satisfy the inequality (3 marks)

$3\ (1 + x) < 5x - 11 < x + 45$

8. Without using calculator, evaluate

$$\left(\frac{7}{3}\left[\frac{2}{5}of1\frac{2}{3}-\frac{1}{2}\left(\frac{1\frac{2}{3}-2\frac{1}{2}}{\frac{1}{3}-\frac{19}{27}}\right)^{\frac{1}{2}}+\frac{2}{3}\right]\right)^{\frac{1}{2}}$$ leaving the answer as a mixed fraction.**(**4 marks**)**

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

9. During a certain month, the exchange rates in a bank were as follows;

	Buying (Ksh.)	Selling (Ksh.)
1 US $	91.65	91.80
1 Euro	103.75	103.93

A tourist left Kenya to the United States with Ksh.1 000,000.On the air port he exchanged all the money to dollars and spent 190 dollars on air ticket. While in US he spent 4500 dollars for upkeep and proceeded to Europe. While in Europe he spent a total of 2000 Euros. How many Euros did he remain with? (3marks)

10. A school decided to make a beautiful picnic site to be used by students and teachers as a resting point. The site was designed to be triangular in shape measuring 40 metres, 60 metres and 80 metres. Calculate the area of the picnic site. (Answer correct to 1 d.p) (3 marks)

11 A regular *n*-sided polygon has its interior angle equal to 4 times its exterior. Find *n.* (3 marks)

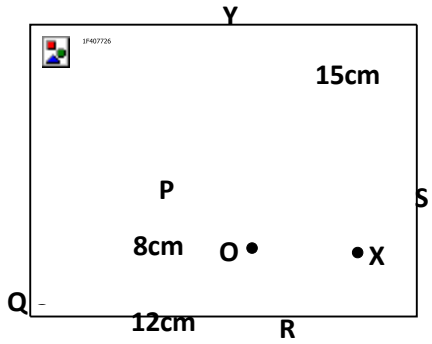
12. The ratio of the lengths of the corresponding sides of two similar rectangular petrol tanks is 3:5.The volume of the smaller tank is 8:1m^3.Calculate the volume of the larger tank. (3 marks)

13. ABCD is a rhombus. A is the point (2, 1) and C is the point (4, 7). Find the equation of the diagonal BD in the form ax + by = c. (3marks)

14. A man walks directly from point A towards the foot of a tall building 240m away. After covering 180m, he observes that the angle of elevation of the top of the building is 45^0.Determine the angle of elevation of the top of the building from A. (3 marks)

15. The G.C.D. and L.C.M. of three numbers are 3 and 1008 respectively. If two of the numbers are 48 and 72, find the least possible value of the third number. (3 marks)

16. An ant moved from Y to X the midpoint of RS through P in the right pyramid below



Draw the net of the pyramid showing the path of the ant hence find the distance it moved. (4marks)

SECTION II (50 marks)

ANSWER ANY FIVE

17. Three warships A,B and C are at sea such that ship B is 500km on a bearing N30E from ship A. Ship C is 700km from ship B on a bearing of 120^{o}.An enemy ship D is sighted 800km due south of ship B.

a)Taking a scale of 1cm to represent 100km, locate the positions of ships A, B ,C and D. (4 marks)

b) Find the bearing of:

i) Ship A from D (1 mark)

ii)Ship D from C (1 mark)

c) Use scale drawing to determine the distance between

i) D and A (1 mark)

ii) C and D. (1 mark)

d) Measure angle DAC and angle BCD (2 marks)

18. a) A rectangular tank of base 2.4m by 2.8m and a height of 3m contains 3600litres of water initially. Water flows into the tank at the rate of 0.5litres per second. Calculate:

i) The amount needed to fill the tank (2marks)

ii) The time in hours and minutes required to fill (3marks)

b). Pipe A can fill an empty tank in 3hours while pipe B can fill the same tank in 6hours .When the tank is full, it can be emptied by pipe C in 8hours .Pipes A and B are opened at the same time when the tank is empty .If one hour later pipe C is also opened, find the total time taken to fill the tank. (5marks)

19. A solid is made up of a conical frustum and a hemispherical top. The slant height of the frustum is 8cm and its base radius is 4.2cm.If the radius of the hemispherical top is 3.5cm

a) Find the area of:

i) the circular base. (2 marks)

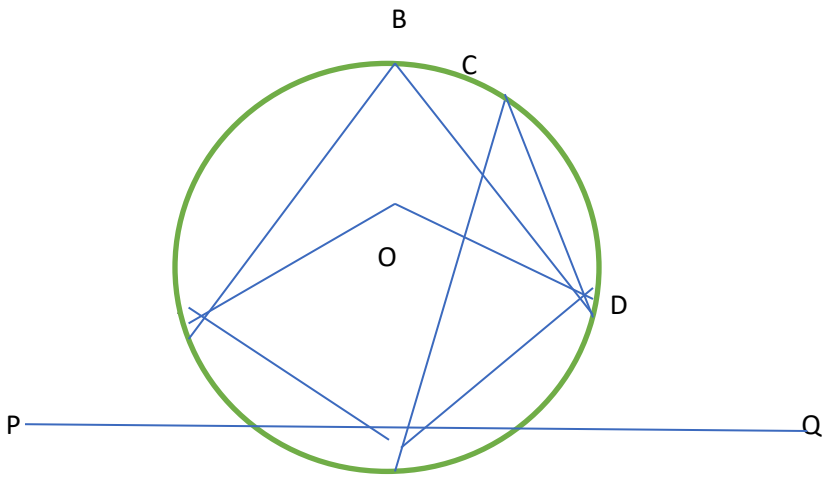
ii) the curved surface of the frustum (3 marks)

iii) the hemispherical surface

(3marks)

b) A similar solid has a total surface area of 81.51cm^2.Determine the radius of its base. (2marks)

19. In the figure below, O is the center of the circle. PQ is a tangent to the circle at N. Angle NCD is 10° and angle ANP is 30°



Giving reasons find;

a) Angle DON (2marks)

b) Angle DNQ (2marks)

c) Angle DBA (2marks)

d) Angle ONA (2marks)

e) Angle ODN. (2marks)

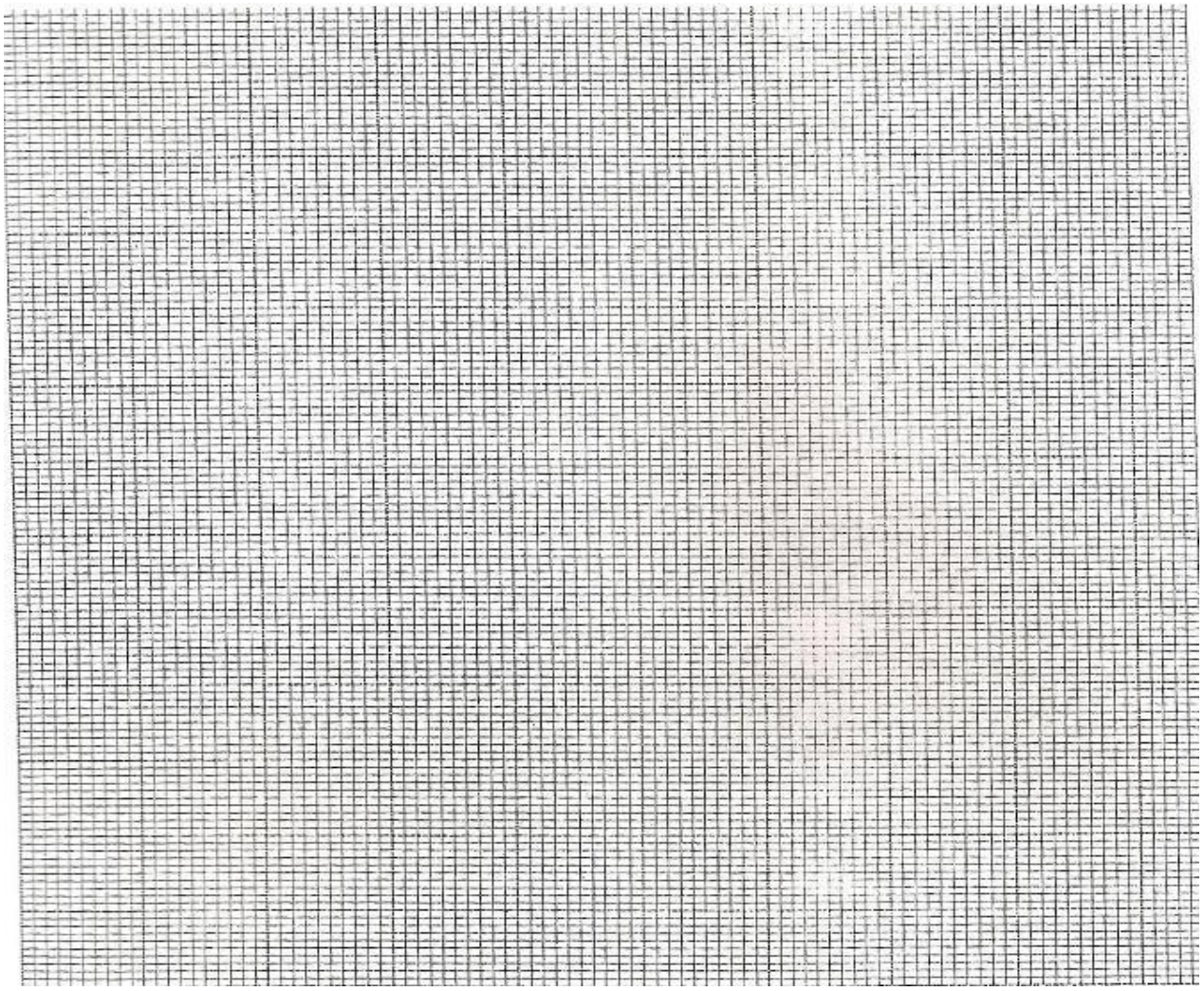
Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

20. Two quantities P and Q are connected by the equation $\mathbf{P= KQ^n}$. The table below gives the values of P and Q

P	1.2	1.5	2.0	205	3.5	4.5
Q	1.58	2.25	3.39	4.74	7.86	11.5

a) State the linear equation connecting P and Q (1 mark)

b) Using a scale of 1cm to represent0.1 units in both axes, draw a suitable straight line graph on the grid provided (5 marks)



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

c) Use your graph in b) above to determine the approximate values of **K** and **n.** (2 marks)

d) From the graph, find the value of Q when P=3 (2 marks)

22. The displacement h metres of a particle moving along a straight line after t seconds is given by $h=-2t^3+\frac{3}{2}t^2+3t$.

a) Find its initial acceleration (3 marks)

b) Calculate;

i) The time when the object was momentarily at rest (3 marks)

ii) Its displacement by the time it comes to rest (2 marks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

c) Calculate the maximum speed attained (2 marks)

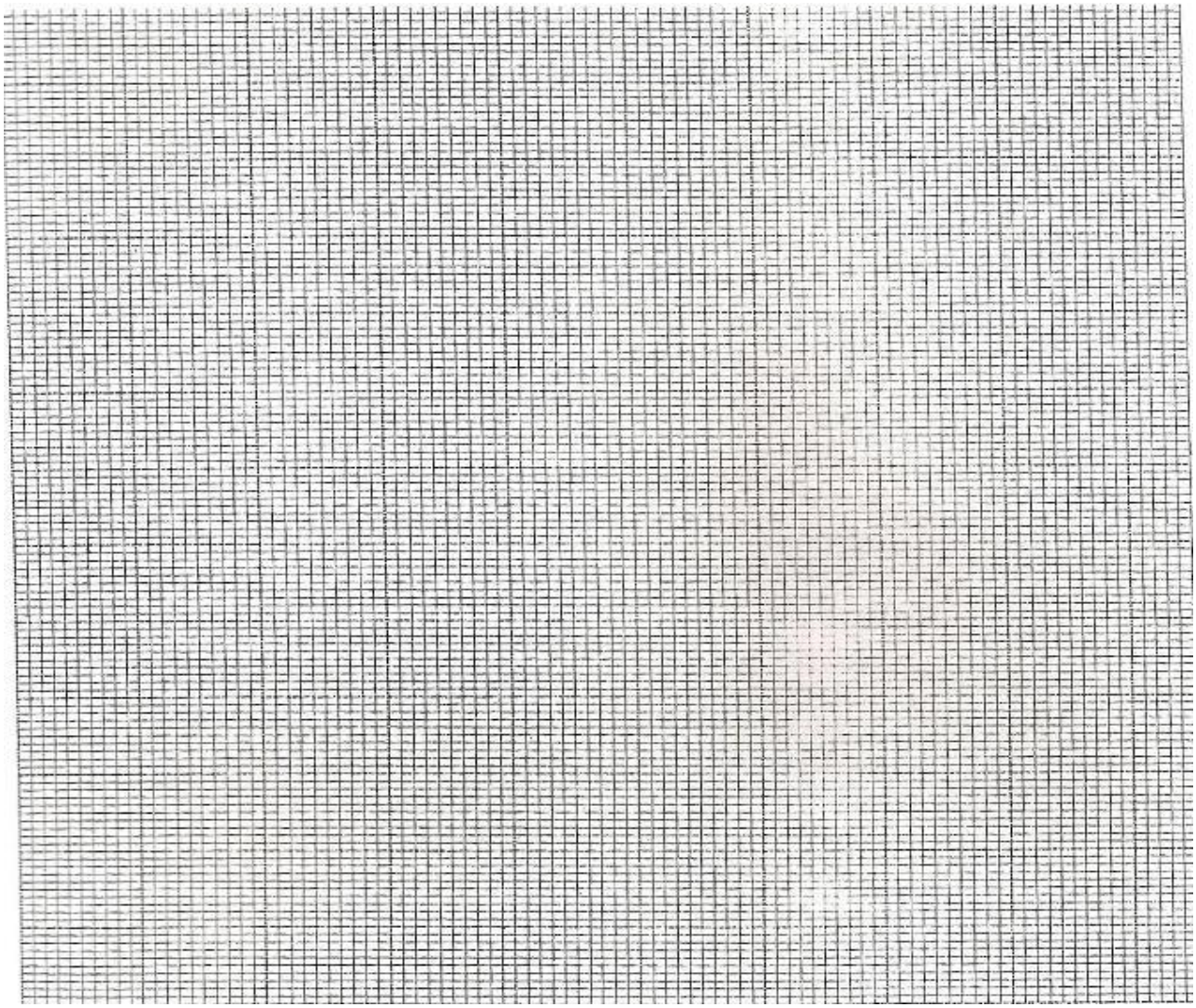
23.a) Complete the table below for graphs of y=sinx and y=2sin(x+30)

(2 marks)

x	o	30	60	90	120	150	180	210	240	270	300	330	360
sin x	0		0.87			0.5			-0.87			-0.5	
2sin (x +30)	1	0.5		1.74		0	-1				-1		

e) Using a suitable scale on the grid below draw the graphs of y = sin x and y = 2sin (x +30) for $0 \leq x \geq 360^0$ (4 marks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes



c) State the transformations that would map y= sinx onto y=2sin(x+30). (2 mark)

d) Find the values of x which satisfy the equation sin x – 2sin (x +30) =0. (2 marks)

24. A trailer moving at a speed of 80km/h is being overtaken by a car moving at 100km/h in a clear section of a road. Given that the bus is 21m long and the car is 4m long.

a) How much time (in seconds) will elapse before the car can completely overtake the bus?(3 marks)

b) How much distance (in metres) will the car travel before it can completely overtake the bus? (2 marks)

c) Given that as soon as the car completed overtaking the trailer, a bus heading towards the trailer and the car and moving at a speed of 90km/h became visible to the car driver. It took exactly 18 seconds for the car and the bus to completely by pass each other from the moment they first saw each other.

i. How far was the tail of the bus from the tail of the car at the instance they first saw each other given that the bus is 12 metres long? (3 marks)

ii. How far a part was the trailer and the bus just immediately after the car and the bus had passed each other? (2 marks)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

MATHEMATICS

121/2
Mathematics
Paper 2
2 ½ Hours

INSTRUCTIONS TO CANDIDATES

- Write your name and Admission number in the spaces provided at the top of this page.
- This paper consists of two sections: Section I and Section II.
- Answer ALL questions in section 1 and ONLY FIVE questions from section II
- All answers and workings must be written on the question paper in the spaces provided below each question.
- Show all the steps in your calculation, giving your answer at each stage in the spaces below each question.
- Non – Programmable silent electronic calculators and KNEC mathematical tables may be used, except where stated otherwise.

FOR EXAMINERS USE ONLY

SECTION I

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

SECTION II

17	18	19	20	21	22	23	24	TOTAL

GRAND TOTAL

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION I (50 MARKS)

1. Use logarithm tables to solve; (4mks)

$$\sqrt[3]{\frac{45.23\times 0.1122}{6394}}$$

2. Solve for θ in the equation $\sin(4\theta + 10^o) - \cos(\theta + 70^o) = 0$ (3mks)

3. A quantity K is partly constant and partly varies as M. When K = 45, M = 20, and when K = 87, M = 48

a) Find the formulae connecting K and M (1mk)

b) Find K when M = 36 (2mk)

4. (i) Expand $(2x-1)^5$ in ascending powers of x (1mk)

(ii) Hence use your expansion up to the third term to evaluate $(-0.98)^5$ (2mks)

5. Find the equation of the normal to the curve $y = x^2 + 4x - 3$ at point (1, 2). (3mks)

6. Using a ruler and a pair of compass only, construct triangle ABC in which BC is 6.6cm, AC=3.8cm and AB= 5.6cm. Locate point E inside triangle ABC which is equidistant fromponts A, and C such thatangle AEC=90^0. (3mks)

7. Solve the following trigonometric equation $2\cos 2(x+30) = 1$ for $0 \le x \le 360^0$ (3 mks)

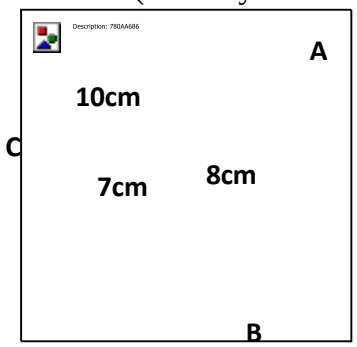
8. The position vectors of A and B are given as **a**= 2**i**-3**j**+4**k** and **b**= -2**i**-**j**+2**k** respectively. Find to 2decimal places, the length of the vector $\overrightarrow{AB}$. (3mks)

9. A T.V set was bought on hire purchase. A down payment (deposit) of Ksh 5000 was paid and a 15 monthly installment of Kshs 1500 was required.

a) Calculate the total amount paid on hire purchase (1mks)

b) If the hire purchase payment is 20% than cash payment, find the cash price (2mks)

10. The figure below shows a triangle ABC inscribed in a circle. AC = 10cm, BC = 7cm and AB = 10cm. Find the radius of the circle.(Leave your answer to the nearest 1 decimal place) (3mks)



11. The floor of a rectangular room measures 4.8m by 3.2m. Estimate the percentage error in the area.

(3mks)

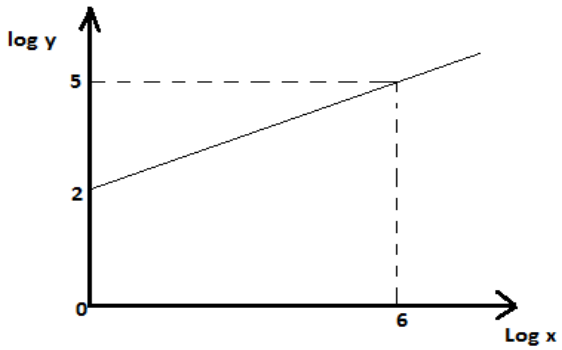
12. Simplify without using mathematical tables or a calculator (3mks)

$$\frac{\log 16 + \log 81}{\log 8 + \log 27}$$

13. Rationalize the denominator fully and simplify, leaving your answer in surd form. (3mks)

$$\frac{2}{\sqrt{5}+\sqrt{3}}-\frac{5}{\sqrt{7}-\sqrt{6}}$$

14. The figure below shows the graph of logy against logX



If the law connecting x and y is of the form $y = ax^b$, where a and b are constants. **Find** the values of a and b. (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

15. Solve the equation by completing square method $2x^2 + 3x - 5 = 0$ (3mks)

16. Find the area bounded by the curve $y = x(x-1)(x+2)$ and the x-axis . (4mks)

SECTION II (50 MARKS)

Answer any five questions from this section

17. Mr. Ouma is a civil servant on a basic salary of Kshs.18,000. On top of his salary, he gets a monthly house allowance of Kshs.14,000, medical allowance of Kshs. 3080 and a commuter allowance of Kshs. 4640. He has a life insurance policy for which he pays a premium of kshs.800 p.m and claims an insurance relief of shs 3 for every 20/= on the monthly premiums. He is entitled to a personal relief of kshs.1056 p.m

a) Using the tax table below calculate his PAYE

Income in K£ p.m	Rate %
1 – 484	10
485 – 940	15
941 – 1396	20
1397 – 1852	25
over 1852	30

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

b) In addition to PAYE the following deductions are made on his pay every month.

- Wcps at 2% of his basic salary
- NHIF of kshs. 400
- Loan repayment of kshs. 4000
- Co-op shares of kshs. 800

(i) Calculate his total monthly deductions in Kshs. (7mks)

(ii) Calculate his net monthly pay in Kshs. (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

18. The points $A^1B^1C^1$ are images of ABC A (1, 4), B (-2, 0), C (4, -2) respectively under a transformation N presented by the matrix N = $\begin{pmatrix} 3 & 1 \\ 4 & 0 \end{pmatrix}$.

a) Write down the co-ordinates of $A^1B^1C^1$ (3mks)

b)$A^{11}B^{11}C^{11}$ are the images of $A^1B^1C^1$ under a transformation represented by matrix

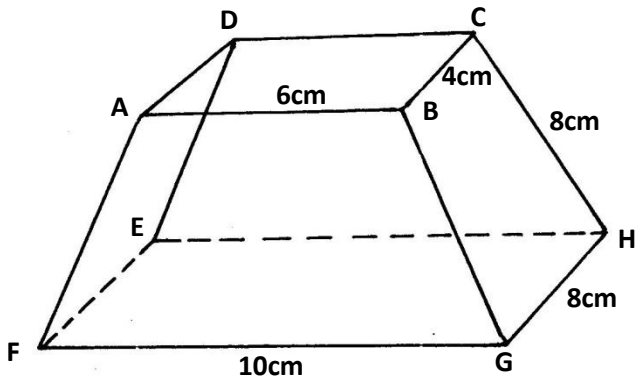
M = $\begin{pmatrix} 2 & -2 \\ 1 & 0 \end{pmatrix}$. Write down the co-ordinates of $A^{11}B^{11}C^{11}$. (3mks)

c) A transformation N followed by M can be represented by a single transformation K.

Determine the matrix K (4mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

19. The figure below shows a solid frustum of a pyramid with a rectangular top of side 6cm by 4 cm and a rectangular base of side 10cm by 8 cm. The slant edge of the frustum is 8cm.



a) Calculate the height of the frustrum (3mks)

b) Calculate the volume of the solid frustum. (3mks)

c) Calculate the angle between the line FC and the plane FGHE (2mks)

d) Calculate the angle between the planes **BCHG** and the base **EFGH**. (2mks)

20. The 2^{nd} and 5^{th} terms of an arithmetic progression are 8 and 17 respectively. The 2^{nd}, 10^{th} and 42^{nd} terms of the A.P. form the first three terms of a geometric progression. Find

(a) the 1^{st} term and the common difference. (3mks)

(b) the first three terms of the G.P and the 10^{th} term of the G.P. (4mks)

(c) The sum of the first 10 terms of the G.P. (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

21. Hospital records indicating the maternity patients that stayed in a hospital for a number of days are as shown in the table below.

No of days stayed	Frequency (No of patients)
3	15
4	32
5	56
6	19
7	5

Find the probability that

a) A patient stayed exactly 5 days (2mks)

b) A patient stayed less than 6 days (2mks)

c) A patient stayed at most 4 days (2mks)

d) A patient stayed at least 5 days (2mks)

e) A patient stayed less than 7 days but more than 4days (2mks)

22. The position of two towns **X** and **Y** are given to the nearest degree as **X** (45^0 N, 110^0 W) and **Y** (45^0 N, 70^0 E)**.** Take π = 3.142, **R** = 6370km.Find:

(a) The distance between the two towns along the parallel of latitude in km. (3mks)

(b) The distance between the towns along a parallel of latitude in nautical miles. (3mks)

(c) A plane flew from **X** to **Y** taking the shortest distance possible. It took the plane 15hrs to move from **X** and **Y**. Calculate its speed in Knots. (4mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

23. A transporter has a van and a pick-up available for trips to the nearest town. He can allow atmost 120 litres of petrol and 4 litres of oil to be used each day. Each trip,the van uses 10litres of petrol and 0.2 litres of oil. Each trip the pick-up uses 6 litres of petrol and 0.8 litres of oil. The profit made on each trip by the van is shs. 60 and on each trip by the pick-up is shs. 80. If he makes x trips in the van and y trips in the pick-up;
a) Write down four inequalities which must be satisfied by x and y (4marks)

b) Represent the inequalities above graphically using a scale of 1cm to represent 2 units in both axes, and then determine the number of trips made by each vehicle to give maximum profit by use of a search line. Then give the maximum profit. (6marks)

24. A stone is thrown straight up from the edge of a roof, 80m above the ground, at a speed of 10m/s. Given that the acceleration due to gravity is $10m/s^2$

a) How far is the stone 3 seconds later? (5mks)

b) What time does it hit the ground? (3mks)

c) What is the velocity of the stone when it hits the ground? (2mks)

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

232/1
Physics
Paper 1
2 hours

INSTRUCTIONS TO CANDIDATES

*Write your **name, admission number** and **class** in the spaces provided above.*

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

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

*Answer **ALL** the questions in sections **A** and **B** in the spaces provided.*

***ALL** working **MUST** be clearly shown.*

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

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

For Examiner's Use Only

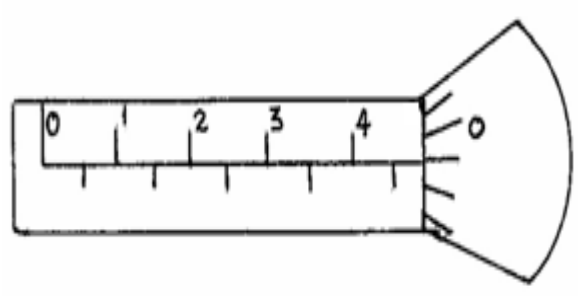
Section	Question	Maximum Score	Candidate's Score
A	1 – 8	25	
B	9	09	
	10	12	
	11	10	
	12	10	
	13	07	
	14	07	
	Total Score	80	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION A (25 MARKS)

Answer all questions in this section in the spaces provided:

1. The diagram **below** shows a micrometer screw gauge used by a student to measure the thickness of a wire. If it has a zero error of 0.06mm, what is the actual thickness of the wire? (2mks)



2. (a). State two differences between heat transfer by convection and radiation (2mks)

……

……

……

……

……

(b). Give a reason why a thick glass bottle cracks when boiling hot water is suddenly poured inside it (1mk)

……

……

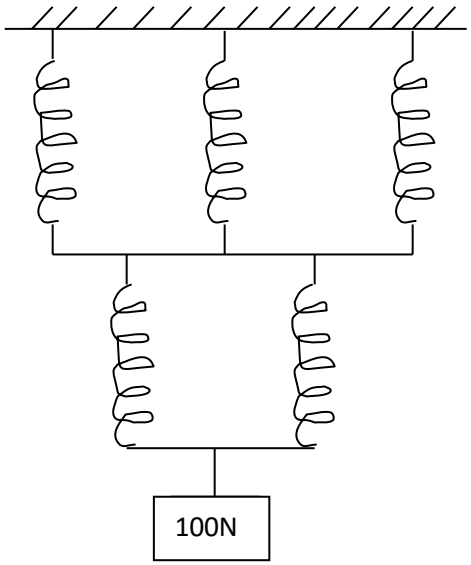
……

……

3. An aircraft 300m from the ground, travelling horizontally at 400 m/s releases a parcel. Calculate the horizontal distance covered by the parcel from the point of release. (Ignore air resistance) (2mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

4. A single spring stretches by 2.0 cm when supporting a load of 50N. If in the system below the springs are identical and have negligible weight;



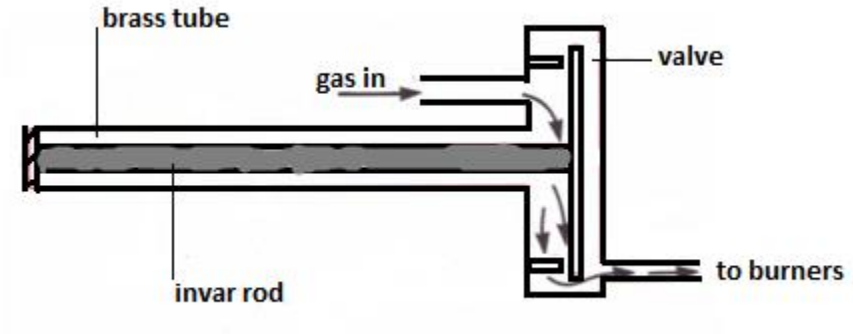
Find:

a) The total extension of the system. (2mks)

b)The total spring constant. (2mks)

5. (a) The distance between the ice point and steam point on a liquid in glass thermometer is 30cm. what temperature is recorded when the mercury thread is 12cm above the ice point? (2mks)

b) The diagram below shows a gas cooker thermostat



Briefly explain how the thermostat works (3mks)

.....

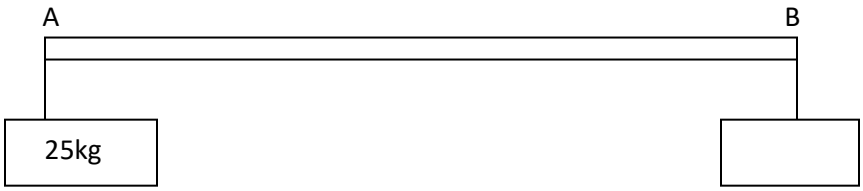
.....

.....

.....

.....

6. The figure below shows a uniform plank AB of length 10m weighing 500N. Two masses measuring 25kg and 60kg are loaded on its ends.



Determine the distance from point A where a support should be placed for the plank to balance horizontally. (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

7. In an experiment to determine the thickness of an oil molecule, an oil drop of volume $3.60 \times 10^{-6}\ m^3$ was observed to form a circular patch of diameter 0.016m on the surface of water covered with lycopodium powder

i). Explain why the oil drop forms a circular patch. (1mks)

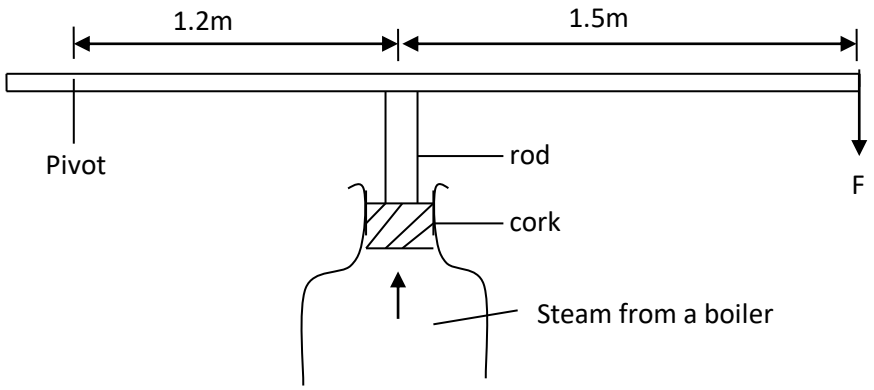
……

……

……

ii) Determine the thickness of the oil molecule (2mks)

8. A cork enclosing steam in a boiler is held down by the system shown.



If the area of the cork is 15 cm^2 and a force (F) of 500N is needed to keep the cork in place, determine the pressure of the steam in the boiler. (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION B

Answer all questions in this section in the spaces provided:

9. (a) An electric crane lifts a load of 2000kg through a vertical distance of 3.0m in 6s.

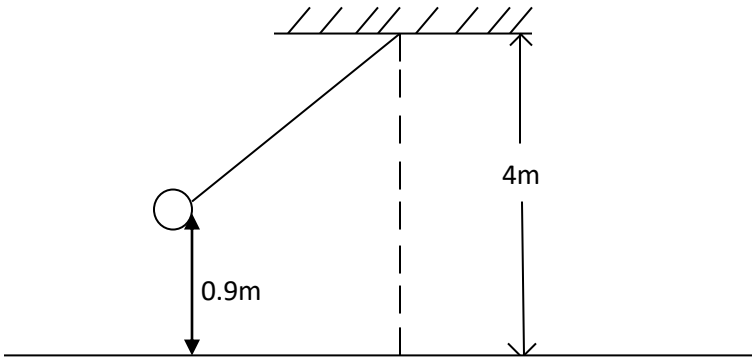
Determine:

i) Work done (1mk)

ii) Power developed by the crane (2mks)

iii) Efficiency of the crane if it is operated by an electric motor rated 12.5 Kw (2mks)

b) A bob of mass 20kg is suspended using a string of 4m from a support and swings through a vertical height of 0.9m as shown below:



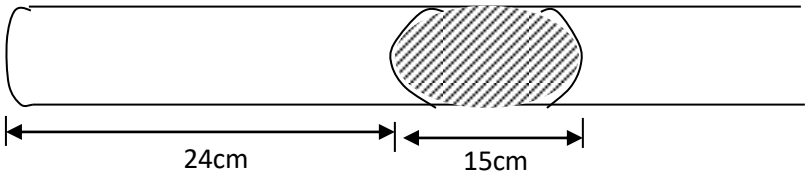
Determine:

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

i) The potential energy of the body at its position. (2mks)

ii) Speed of the body when passing through the lowest point. (2mks)

10. (a) A glass capillary contains enclosed air by a thread of mercury 15cm long when the tube is horizontal, the length of the enclosed air column 24cm as shown.



i) What is the length of the enclosed air column when the tube is vertical with the open end uppermost if the atmosphere pressure is 750mmHg? (2mks)

ii) Explain why the mercury does not run out when the tube is vertical with the closed end uppermost. (1mk)

……

……

……

……

b) Explain why an air bubble increase in volume as it rises from the bottom of a lake to the surface. (1mk)

.....

.....

c) When an inflated balloon is placed in a refrigerator it is noted that its volume reduces, use the kinetic theory of gases to explain this observation. (2mks)

.....

.....

.....

.....

d) A certain mass of hydrogen gas occupies a volume of $1.6m^3$ at a pressure of 1.5×10^5 Pa and a temperature of 22^0c. Determine the volume when the temperature is 0^0c at a pressure of 0.8×10^5 Pa.
(3mks)

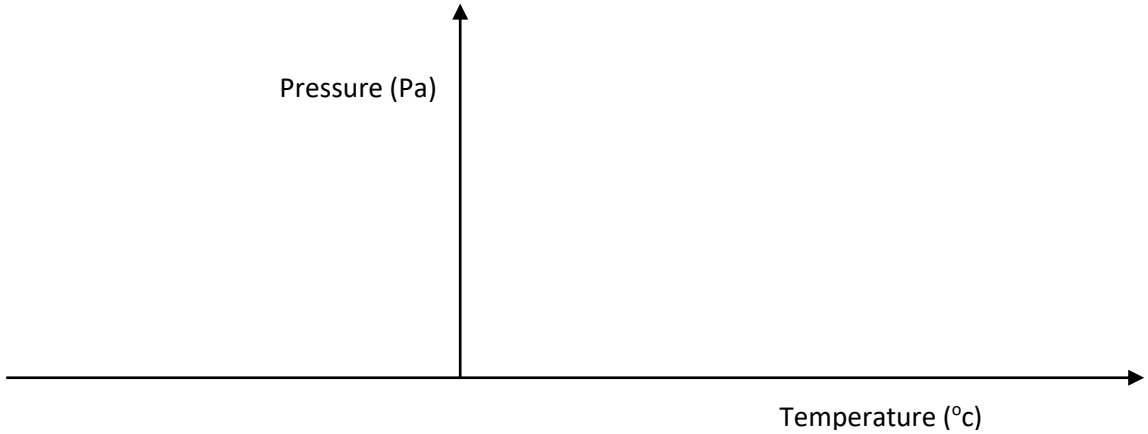
e) i)State the pressure law (1mk)

.....

.....

.....

ii)On the axis provided, sketch a graph of pressure against temperature on the celcius scale. On the same axis sketch another graph for a gas of a larger volume.
(2mks)



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

11 (a) in a hydraulic press, a force of 200N is applied to a master piston of area 25cm^2. If the press is designed to produce a force of 5000N, determine the area of the slave piston. (2mks)

(b) The barometric height in a town is 70cmHg. Given that the standard atmospheric pressure is 76cmHg and the density of mercury is 13600kg/m^3, determine the altitude of the town. (density of air is 1.25kg/m^3) (3mks)

(c) In an experiment to determine 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 the hot water. (1mk)

.....

.....

(ii) State the reason why the bottle gets deformed. (2mks)

.....

.....

.....

.....

(d) A hole of area 2.0cm^2 at the bottom of a tank 5m deep is closed with a cork. Determine the force on the cork when the tank is filled with sea water of density 1.2g/cm^3. (2mks)

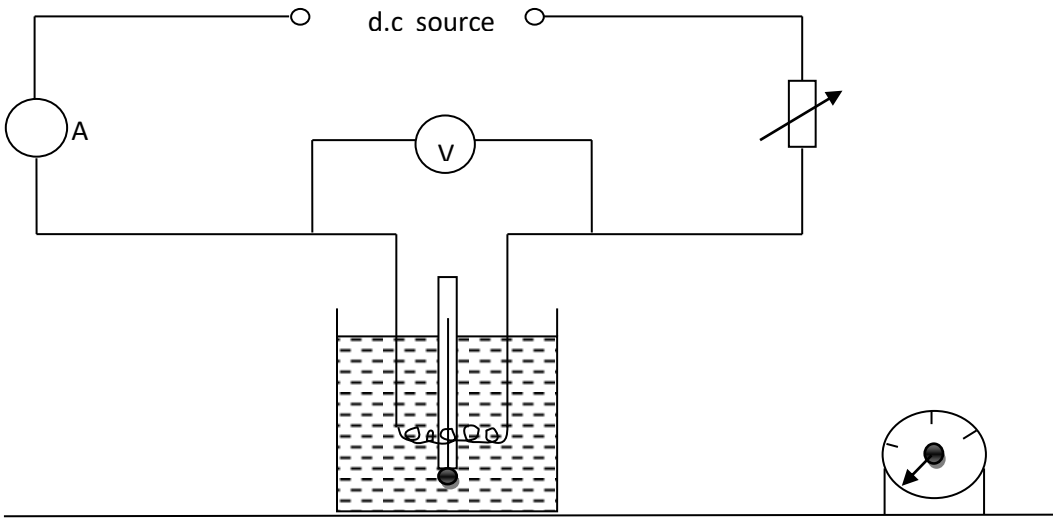
Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

12. (a) Define specific latent heat of vaporization (1mk)

……

……

b) The illustration below is used to produce a measured rise in temperature of a liquid using electrical energy.



Explain why;

(i) The liquid will tend to be warmer at the top of the container than at the bottom. (1mk)

……

……

……

(ii) The temperature will eventually stop rising even though the current is still passing through the heating coil. (1mk)

……

……

……

iii) if the apparatus is used to determine the specific heat capacity of the liquid, the accuracy of the experiment will be increased if the liquid is first cooled to about 5^{o}c below room temperature and the current passed until the temperature is about 5^{o}c above room temperature. (2mk)

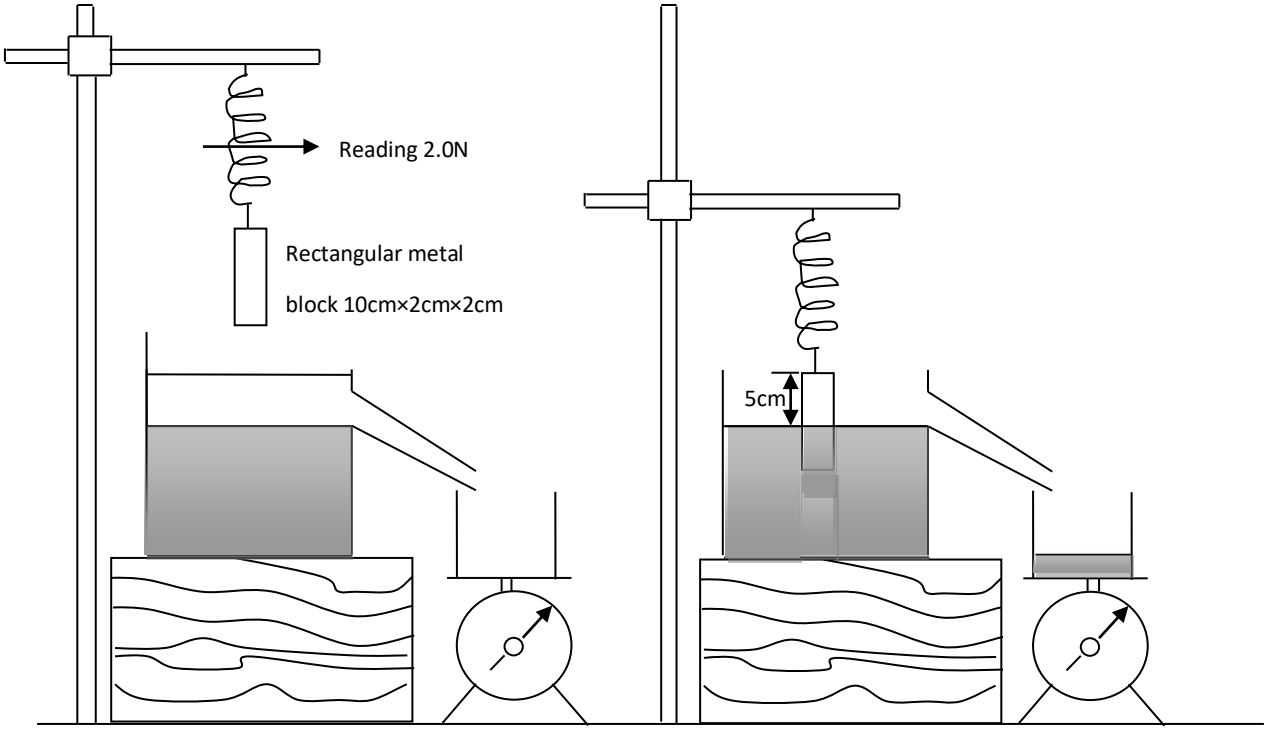
Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(c). A 50W heating coil is totally immersed in100g of water contained in an insulated flask of negligible heat capacity. The initial temperature of water in the flask is 20^{o}c.

(i) Determine how long it takes for the water to boil at 100^{o}C when the heater is switched on (2mks)

(ii)After the water has been boiling for 15 minutes, it is found that the mass of water in the flask has decreased to 80g. Assuming no external heat losses, calculate a value for the specific latent heat of vaporization of water (3mks)

13. (a) The figure below shows details of an experiment performed by a student and the results taken. (take the density of water as 1.0g/cm^3)



Compression balance reading 4N

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

i) Calculate the volume of the metal block below the water (1mk)

ii) Calculate the new reading on the compression balanceafter the block is halfway immersed (2mks)

iii) Calculate the reading you would expect to obtain on the spring balance (2mks)

iv) Give a statement of the principle you have used in part (iii) above (1mk)

.....

.....

.....

b). Explain why the narrow stem of a hydrometer provides greater sensitivity than a wide one (1mk)

.....

.....

.....

14 (a) (i) A car goes round a flat circular bend whose radius is 100m at a constant speed of 30m/s. Calculate its acceleration (2mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(ii) if the mass of the car is 1500kg, calculate the frictional force required to provide this acceleration. (2mks)

(b) (i) Calculate the maximum speed at which the car can go round the bend without skidding if the coefficient of friction between the tyres and the ground is 0.5. (2mks)

(ii) Give a reason why the driver of the car has to move through the same bend at a lower speed during a rainy day. (1mk)

.....

.....

.....

.....

.....

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

232/2
Physics
Paper 2
2 hours

INSTRUCTIONS TO CANDIDATES

*Write your **name, index no** and **class** in the spaces provided above.*

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

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

*Answer **ALL** the questions in sections **A** and **B** in the spaces provided.*

***ALL** working **MUST** be clearly shown.*

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

***This paper consists of 11 printed pages; candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing**.*

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
A	1 – 8	25	
B	9	12	
	10	12	
	11	12	
	12	12	
	13	07	
	Total Score	80	

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

SECTION A (25 marks)

Describe the changes that can be observed during discharging process of a lead –acid accumulator

……

……

……

……

……

1. a) Define power of a lens and give its units (2mks)

……

……

……

……

b) An object whose height is 24cm is placed 20cm in front of a diverging lens of focal length 20cm.

Determine the image distance (3mks)

2. a) Give one property of sound waves (1mk)

……

……

b) a person claps his hands at approximately 0.5s intervals in front of a wall 90m away. He notices that each echo produced by the wall coincides with the next clap.

i) Calculate the approximate speed of sound (3mks)

…

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

ii) if the results obtained above were used as a basis for an experimental method to determine the speed of sound, what procedure should be adopted to obtain high accuracy in the timing part of the experiment?(1mk)

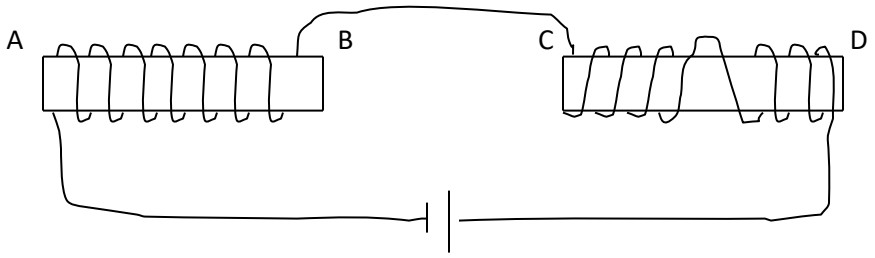
……

……

……

……

3. Identify the magnetic poles A, B, C and D in the diagram below. (2mks)



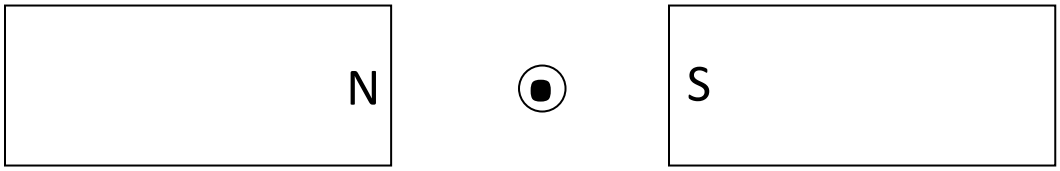
A ……

B ……

C ……

D ……

4. The diagram below shows a current carrying conductor placed in a magnetic field.



i)show on the diagram the direction of force on the conductor (1mk)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

ii) if the current through the conductor is reduced, state and explain what happens to the force in (i) above.

(2mks)

……

……

……

……

5. Gamma, radio, infrared, x-rays are part of the electromagnetic spectrum.

i) Arrange these radiations in order of increasing energy (1mk)

……

……

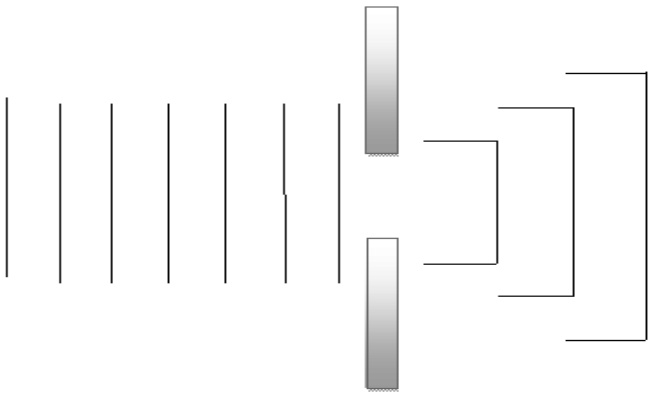
ii) State how radio waves are detected (1mk)

……

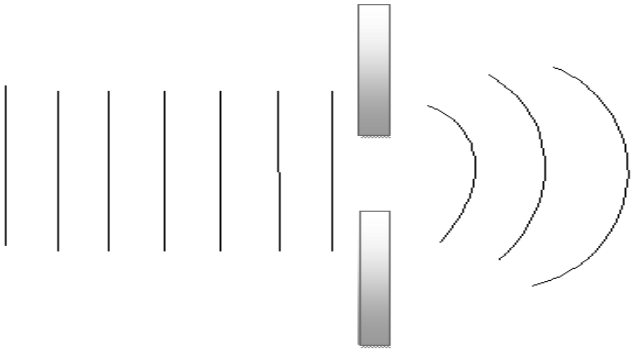
……

……

6. The diagram below shows waves being diffracted.



What adjustments should be done to obtain the wave form below? (2mks)



Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

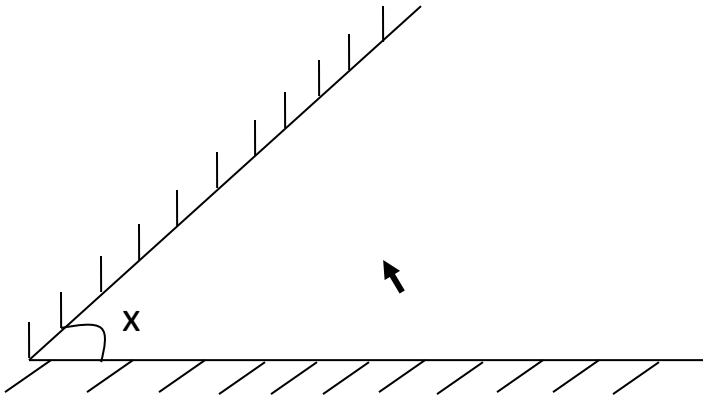
……

……

……

……

7. The diagram below shows an object placed in front of two mirrors inclined to each other at an angle x



An observer sees five images, determine the value of angle x? (2mks)

SECTION B (55 marks)

8. a) State Snell's law (1mk)

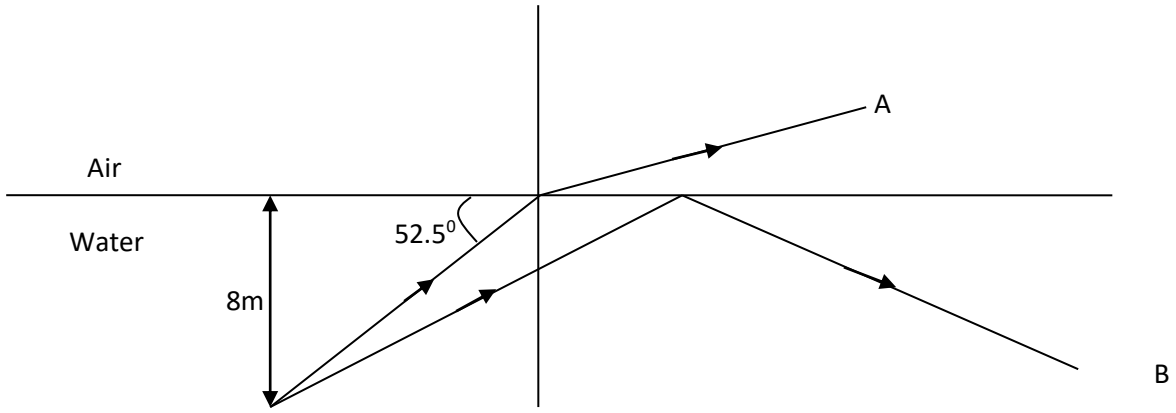
……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

b) The figure below shows a ray of light incident on a water-air interface from a source 8m deep.



i) Ray A is observed to bend as it enters the air. Give a reason why this occurs (1mks)

……

……

……

ii) If the refractive index of water is 1.35, calculate the angle of refraction of ray A (3mks)

iii) Find the critical angle of water (3mks)

iv) Give a reason why ray B is not travelling out of water (1mk)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

v) a fish is placed at the source of light ray. Calculate the maximum area of view on the surface of water (3mks)

9. a) define local action (1mk)

……

……

……

b) a charge of 4.8C flows through a lamp every second. Calculate the number of electrons involved per second. (3mks)

c) Give two differences between a primary and a secondary cell (2mks)

……

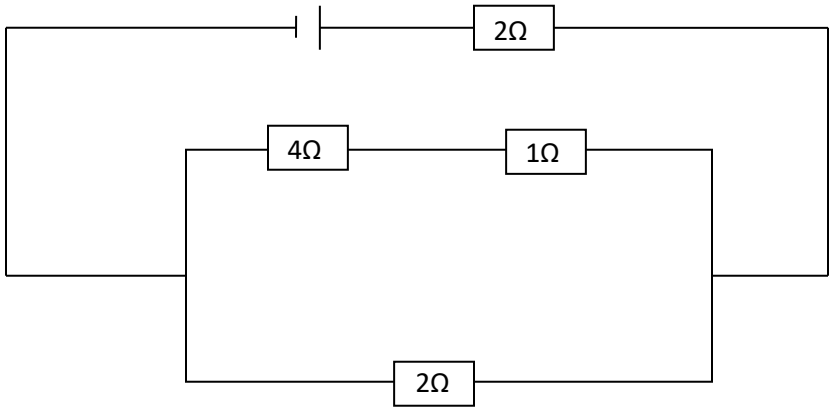
……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

d) The circuit set up shown below makes a current of 1A to flow through the 4Ω resistor



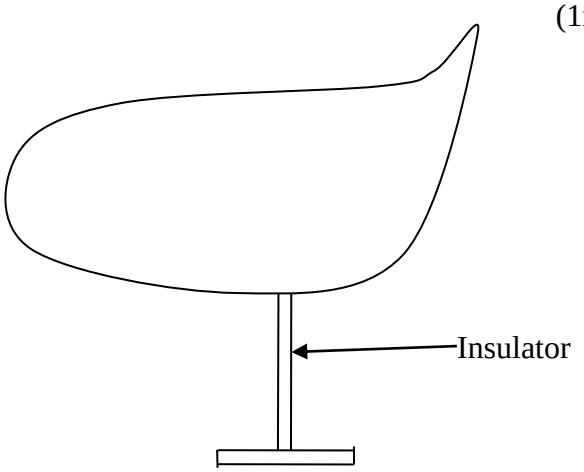
Calculate;

i) The current through the resistor 2Ω (3mks)

ii) the E.M.F of the cell given that the internal resistance is negligible (3mks)

10. Show the charge distribution on the hollow conductor shown below if it is positively charged.

(1mk)



b. State three factors affecting capacitance of a parallel plate capacitor. (3mks)

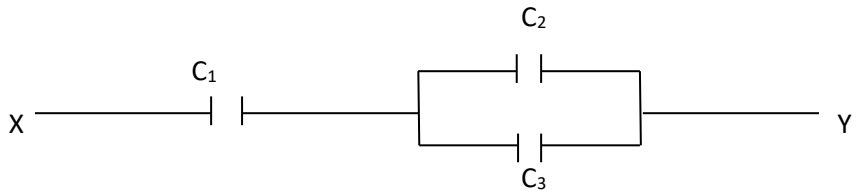
……

……

……

……

c) The diagram below shows a circuit containing three capacitors.

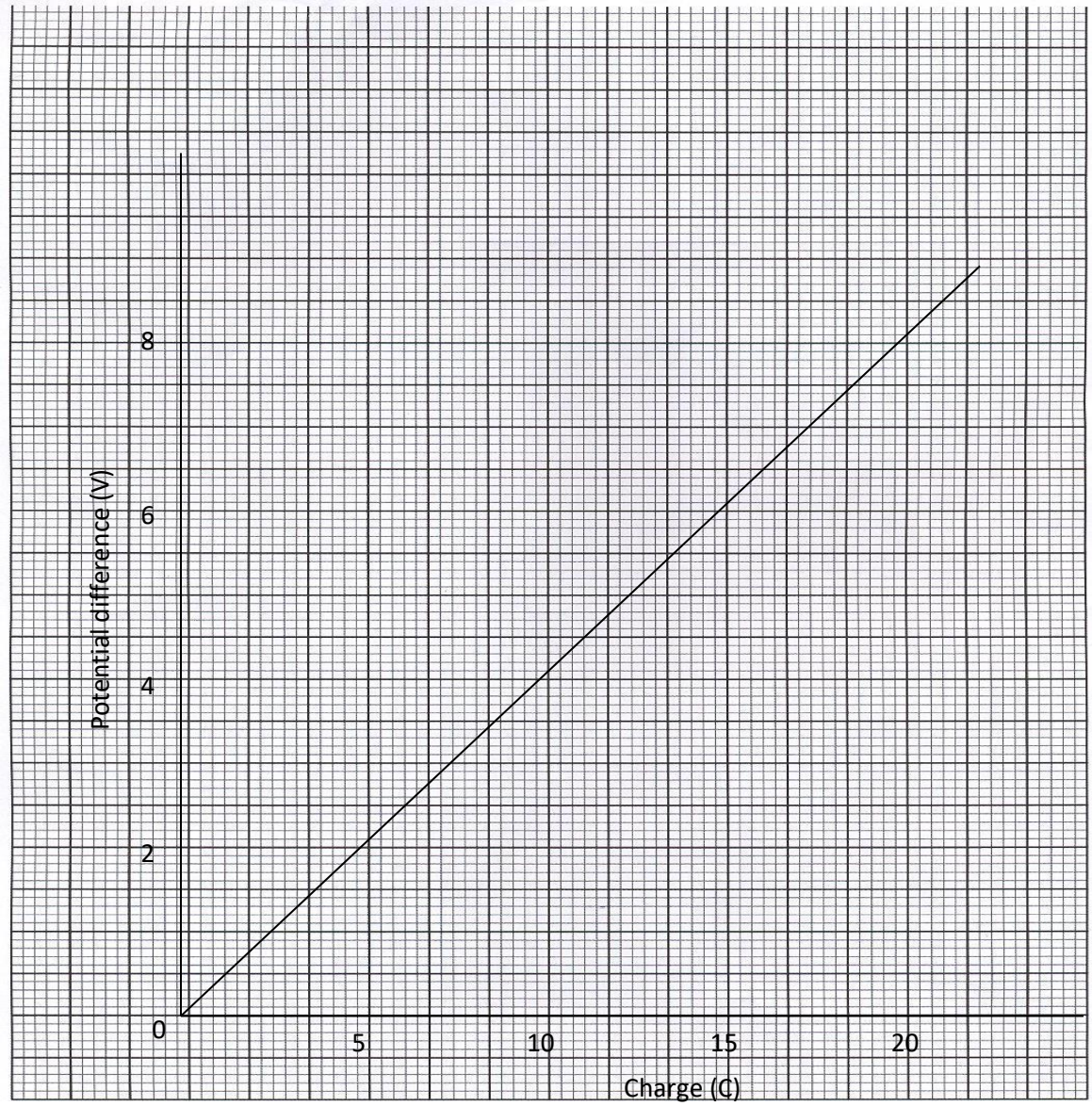


i) Write an expression for effective capacitance between X and Y. (2mks)

i) If c_1=6μF, c_2=4.5μF and c_3=5 μF, calculate the charge stored when point XY is connected in series with a battery of 6V (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

d) The graph below shows the relationship between the voltage drop across a certain capacitor and the charge stored in the capacitor.



From the graph calculate the capacitance of the capacitor. (3mks)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

11. a) State two factors that determine the magnitude of an induced e.m.f in a conductor (2mks)

……

……

……

……

(b) A Power station has an input of 30kw at a potential difference of 5kv.A transformer with a secondary coil of 1000 turns is used to step down the voltage to 1000v for transmission along a grid .Assuming there are no power loses in the transformer .calculate.

(i) current in the primary coil (3mks)

(ii) the number of turns in the primary coil (3mks)

(iii) The current in the secondary coil (2mks)

(iv) State which of the coils is thick and why (2mks)

……

……

……

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

12. a) Define magnification (1mk)

……

……

……

b) State two differences between a concave and a convex reflectors (2mks)

……

……

……

……

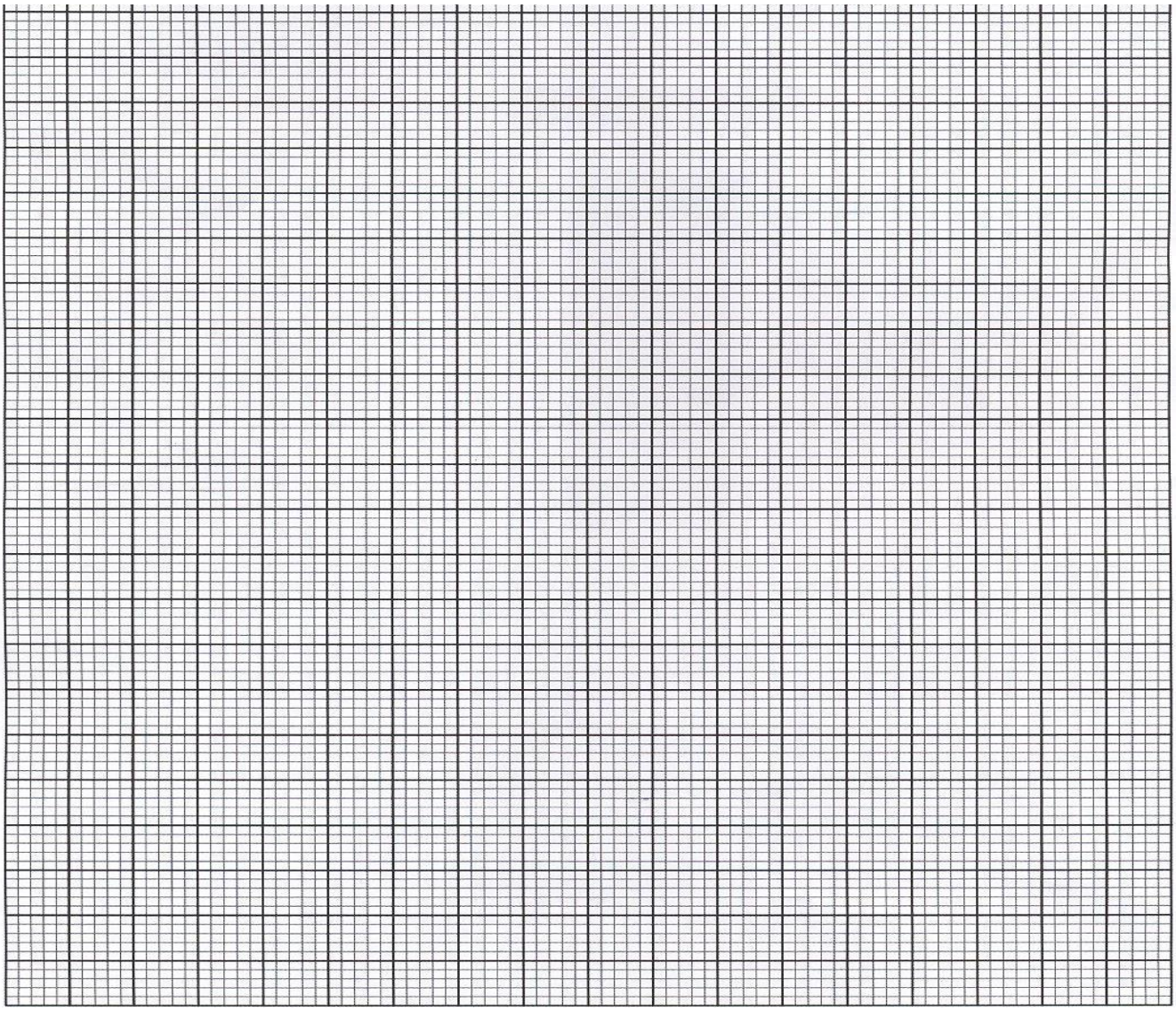
……

c) a concave mirror of focal length 20 cm forms a real image three times the size of the object. If the object height is 4cm; determine, using graphical method, the:

(i)object distance (3mks)

(ii) The image distance (1mk)

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes



NAME: ……..

INDEX NO: ……..…..… SIGN: ……..…. DATE:……

SCHOOL: ……..

BRILLIANT STUDENT PRE-MOCK 4 EXAMS

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

232 / 3
PHYSICS
PAPER 3
(PRACTICAL)
2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- This paper consists of **two** questions, Question **1** and question **2**.
- Answer **ALL** the questions in the spaces provided in the question paper.
- You are not allowed to start working with the apparatus for the first ¼ hours of the 2 ½ 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.
- Marks are given for a clear record of the observations actually made, for their suitability and accuracy and the use made of them.
- Candidates are advised to record their observations as soon as they are made.
- Mathematical tables and electronic calculators **may be** used in calculations.

FOR EXAMINER'S USE ONLY

Question	Maximum Score	Candidate's Score
1	20	
2	20	
Total	**40**	

This paper consists of 6 printed pages.
Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

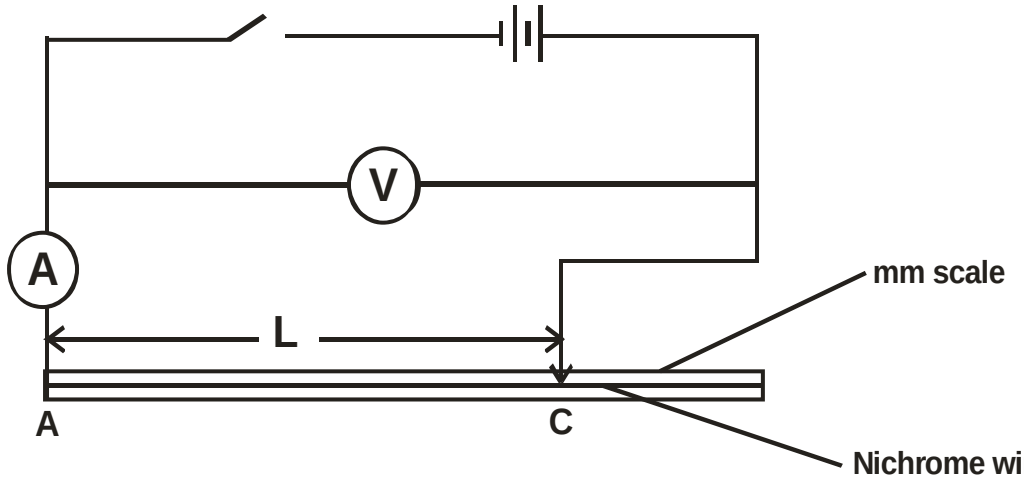
PART A

1. You are provided with the following apparatus.

- Two dry cells.
- Nichrome wire 100cm on a mm scale.
- An ammeter.
- Cell holder.
- Voltmeter.
- Connecting wires with crocodile clips.
- Switch.

Proceed as follows;

a) Connect the circuit as shown in the diagram.



b) Connect the ends A and C where AC is the length L of the Nichrome wire across the terminals as shown. Close the switch and measure both current I and potential difference (P.d) across the wire AC when L = 100cm.

Current I = …… (1 mark)

P.d, V = …… (1 mark)

c) Measure the E.m.f of the cells, E.

E = …… (1 mark)

d) Reduce the length L (AC) to the lengths shown in the table below. In each case record the current, I, and the corresponding P.d.

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

Length L (cm)	100	70	60	50	40	20
I (A)						
P.d (V)						
E – V (v)						

(7 marks)

e) Plot a graph of E – V against I(A) on x-axis in the grid provided. (5 marks)

PROVIDE A GRAPH PAPER

f) Determine the slope of the graph. (3 marks)

g) Given that E = V + Ir, determine the internal resistance, r, of each cell. (2 marks)

2). You are provided with the following

- A rectangular glass block
- Four optical pins
- A plane mirror mounted on a piece of wood to stand vertically
- Soft board
- Sheet of paper
- Four thumb pins/office pins
- Vernier callipers

a) Place the plain sheet of paper on the soft board and fix it using the thumb pins. Place the glass block on the soft board and trace its outline.

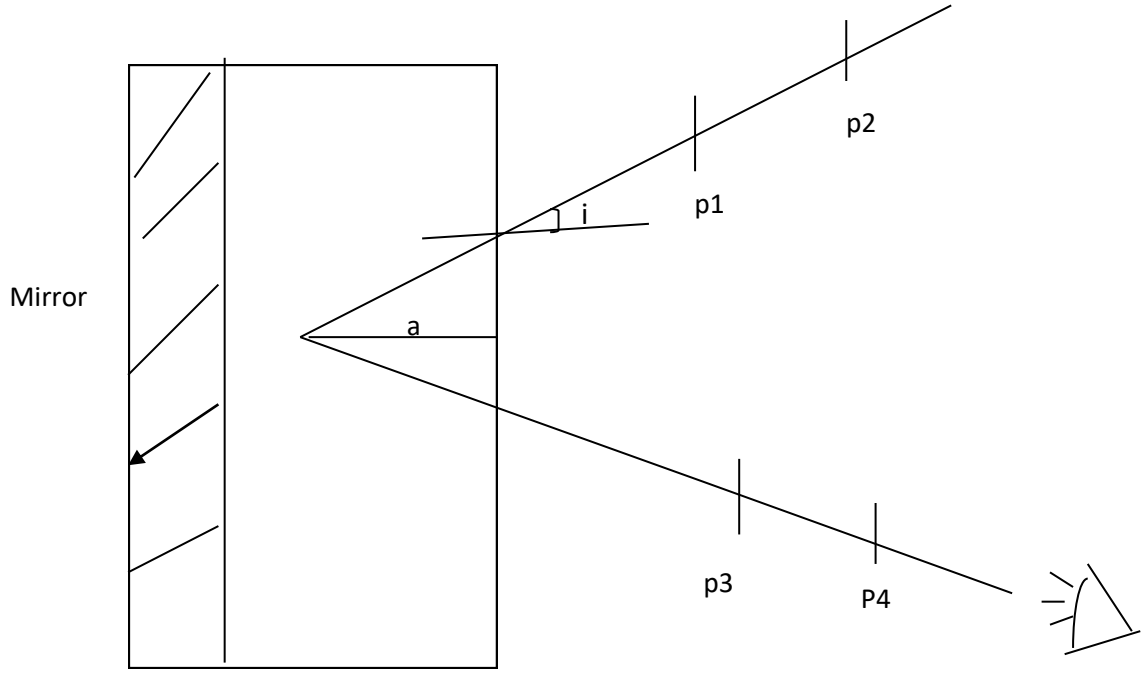
b) Remove the glass block and draw a normal line at about 2cm from the end of the longer side of the glass block outline.

c) Draw a line at an angle i = 10^0 from the normal. Fix two pins P_1 and P_2 on the line, at least 6cm

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

from each other.

d) Arrange the glass block and the plane mirror as shown below



Glass block

(e) Fix pins P3 and P4 such that they appear to be in line with image of P1 and P2.

Measure the distance a

(f) Repeat the procedure for other values of i and complete the table

Angle i^0	10	20	30	40	50	60
Distance a (cm)						

(5mks)

(g) Plot a graph of a (y-axis) against i (5mks)

PROVIDE A GRAPH PAPER

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes

(h) Find the slope of the graph (3mk)

(i) Use your graph to determine the maximum value of a (1mk)

(j) Given that a = mi + k where m and k are constants, find the values of m and k. (2mk)

(k) Measure the width of the refracting glass using the vernier calipers

W = (1mk)

(i) For i = 30^0 determine the value of x = $^{w}/_{a}$ (2mks)

(m) What physical quantity does x represent (1mk)

NB hand in the sheet of paper with the traces representing the rays of light you used for determining a and i

Prefer Calling Sir Obiero Amos @ 0706 851 439 for Marking Schemes


PREFER CALLING SIR OBIERO AMOS @
0706 851 439
FOR QUICK SERVICE
ACQUIRE THE FOLLOWING
KASNEB NOTES/REVISION KITS
NOW :
CPA
ATD
CS
CICT
CIFA
0706851439
By Sir Obiero Amos
Resources
&
AMOBI SOFT COPY PUBLISHERS
Transparency, Honesty and Accountability Defined
KASNEB
Study Materials
ATD
LEVEL 3
STUDY TEXT
PRINCIPLES OF ECONOMICS
CPA
SECTION 4
STUDY TEXT
QUANTITATIVE ANALYSIS
CIFA
SECTION 1
STUDY TEXT
FINANCIAL MATHEMATICS
CS
SECTION 6
STUDY TEXT