

KENYA'S TOP SCHOOLS K.C.S.E 2022 **EXAMINERS' PREDICTION SERIES 3**



KENYA'S TOP SCHOOLS K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

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

Subjects Tested: 1. AGRIC 2. BIO 3. BST 4. CHEM 5. CRE 6. ENG 7. GEOG 8. HIST
9. KISW 10. MATHS & 11. PHY 12. COMP & 13. HSCI

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KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

443/1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

Instructions:

- This paper has three sections A,B and C.
- answer all questions in sections A and B.
- Answer any two questions in section C.

For Examiners use:

SECTION	QUESTIONS	MAXIMUM SCORE	STUDENTS SCORE
A	1-19	30	
B	20-23	20	
C	24	20	
	25	20	
	26	20	
TOTAL		90	

1.Name two situations under which irrigation is practiced (1mk)

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2.Give a reason why ranching is an improvised pastoral nomadism (1mk)

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3.State two ways by which a soil of PH 3 can be raised to a PH of 6 (1mk)

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4.Outline two effects of adding organic matter to sandy soil (1mk)

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5.State four functions of young farmers club in schools (2mks)

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6.Distinguish between a perfect and imperfect market. (1mk)

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7.Name four financial documents used in the farm (2mks)

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8..State four factors that determine the depth of planting (2marks)

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9.State four minimum tillage practices (2marks)



10. Give four ways of improving labour productivity on a farm (2mks).

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11 State four forms of agroforestry (2mks)

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12. A farmer plants maize on his piece of land measuring 40m by 30m at a seed rate of 1 seed per hole. If he used a spacing of 75cm by 25cm, Calculate this plant population (2marks).

13. State four reasons for conserving forage (2marks)

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14. Give four benefits of a land title deed (2mks)

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15. State four steps of gully formation (2mks)

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16. State two characteristics of a good root stock for grafting (1mk)

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17. State two main causes of silage losses (1mk)

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18. State four aims of land settlement programmes in Kenya (2mks)

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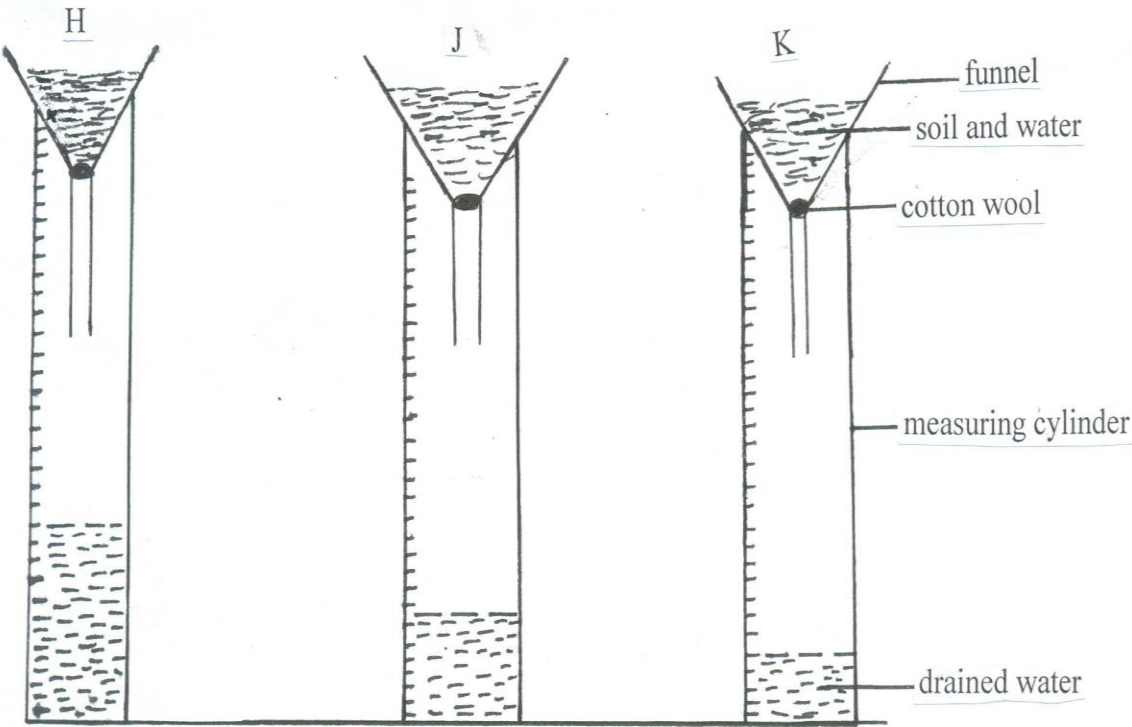
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19. Give two factors that influence the stage at which crop is harvested (1mks)

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SECTION B(20MARKS)

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



(a) Identify the soil in each of the funnels labeled (3marks)



H

J

K

(b) Which of the three types of soil can be said to have the highest porosity rate?(½ mk)

.....
.....

(c) Which type of soil would be suitable for planting paddy rice? (½mk)

.....
.....

21. The diagrams below represent some panicles of varieties of Sorghum crop growing in the field. Study them carefully and answer the questions that follow.



Variety A



Variety B

Variety C



a) Identify the types of panicles in each of the varieties represented by A,B and C

Variety **A** (1mark)

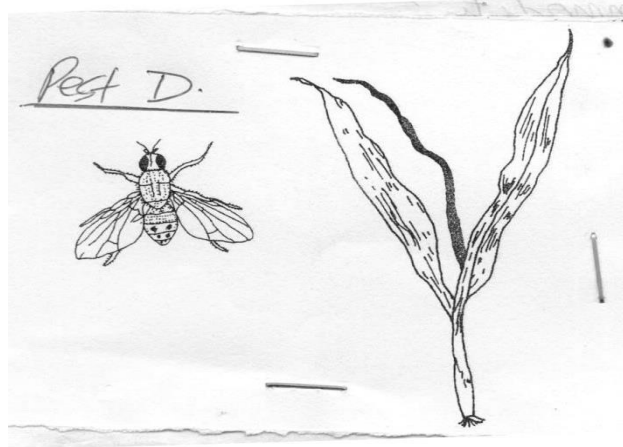
Variety **B** (1mark)

Variety **C** (1mark)

b) Which of the varieties named in (a) above is less easily damaged by bird pests(1mrk)

.....
.....

c) The diagram below represents a pest labeled D that infests Sorghum plants during early stages of establishment



i) Identify the pest

.....(1mark)

ii) State two methods of controlling the pest named in C(i) above (2marks)

.....

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.....

.....

22. Study diagram below and answer questions that follow.



(i) Name the farming practice illustrated above. (1mark)

.....

.....

(ii) Give the procedure followed to carry out the practice you have named in (i) above (3marks)

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.....

(iii) state the importance of carrying out the farming practice named above. (1 mark)

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.....

23. The diagram below shows common weeds, study them and answer the questions that follow.



a) Identify the weeds J and K. (2marks)

J

K

b) State the effects of weed labeled J to livestock. (1 mark)

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.....
.....

c) Give **one** reason why it is difficult to control the weed labeled L? (1 mark)

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.....



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KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

AGRICULTURE PAPER 2

443/2

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

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

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

[iii]This paper consists of three sections A, B, andC.

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

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

FOR EXAMINERS USE ONLY.

SECTION	QUESTIONS	MAX.SCORE	CANDIDATES SCORE
A	1-18	30	
B	19-21	20	
C	22-24	40	
TOTAL SCORE		90	

Section A (30marks)

1. Give **two** reasons for docking in sheep production. (1mk)

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2. Give **four** ideal qualities of a good calf pen (2mks)

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3. Outline **four** characteristics of Romney marsh sheep breed (2mks)

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4. (a) State **two** disadvantages of using metal frames in construction of farm buildings(1mk)

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.....
.....

(b) Give **two** reasons for seasoning timber (1mk)

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5. Outline **four** reasons for swarming of bees (2mks)

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6. List **two** methods that can be used to preserve fish (1mk)

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7. (a) What is a notifiable disease?(1mk)

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(b) Name **four** examples of notifiable diseases in livestock (2mks)

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8. Name **two** major physical differences between Bactrian and Dromedary breeds of camel.(1mk)

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9. State **two** characteristics of heavy poultry breeds (1mk)

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10. List **two** maintenance practices of a wood chisel (1mk)

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11. State **four** ways of controlling tsetse flies (2mks)

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12. State **four** characteristics of livestock roughage feedstuff (2mks)

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13. List **two** equipment used in handling cattle during agricultural exhibition (1mk)

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.....

14. State the gestation period of the livestock animals given below

(a) rabbit (½mk)
.....

(b) goat (½mk)
.....

15. State **four** disadvantages of natural mating (2mks)

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.....

16. State **one** egg content added to it at the magnum during egg formation process(1mk)

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.....

17. State **four** methods used to control cannibalism in a deep litter system (2mks)

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18. (a) Give **three** uses of Biogas in the farm(1 ½ mks)

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(b) State **three** reasons why the use of wind power on the farm is limited(1 ½mks)

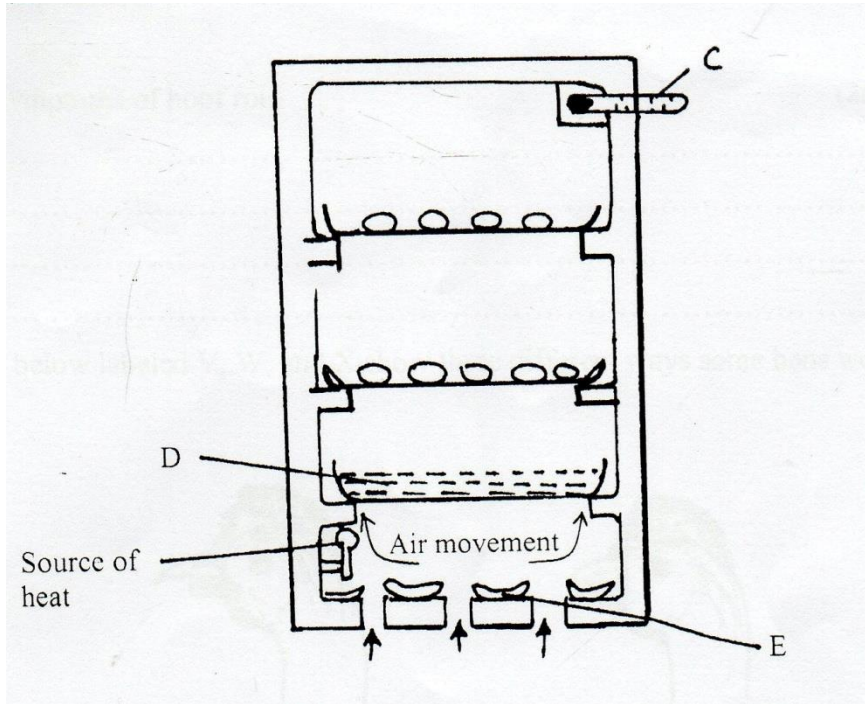
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Section B: (20marks)

Answer ALL questions in this section.

19. (a) The illustration below represents equipment used in poultry production. Study it carefully and answer the questions that follow:



i) Identify the equipment illustrated above. (1mk)

.....

ii) Name the parts labeled C,D and E on the diagram of the equipment illustrated on the equipment in a) above (1 ½mks)

C

D

E

iii) What are the functions of the parts labeled C,D and E (3mks)

C

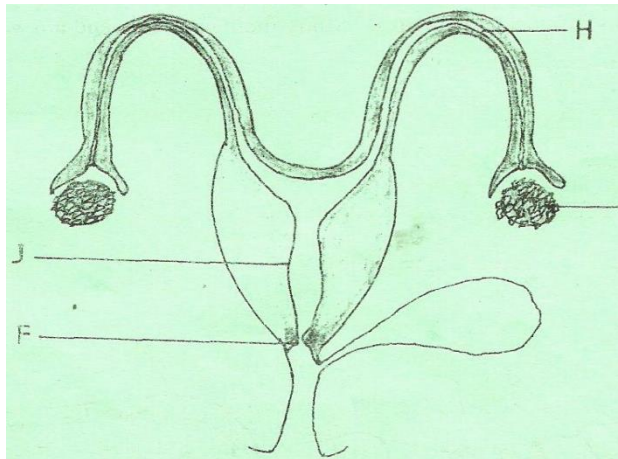
D

E

(iv) Why is it important to turn the eggs around 180 oc every 6- 8 hours? (1mk)

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.....
.....

(b).The diagram bellows shows the reproductive system of a cow. Study it and answer the questions that follow



(i) Name the parts labeled J , F and H. (1.5mks)

J

F

H

(ii) State one function of each of the parts labeled J and H

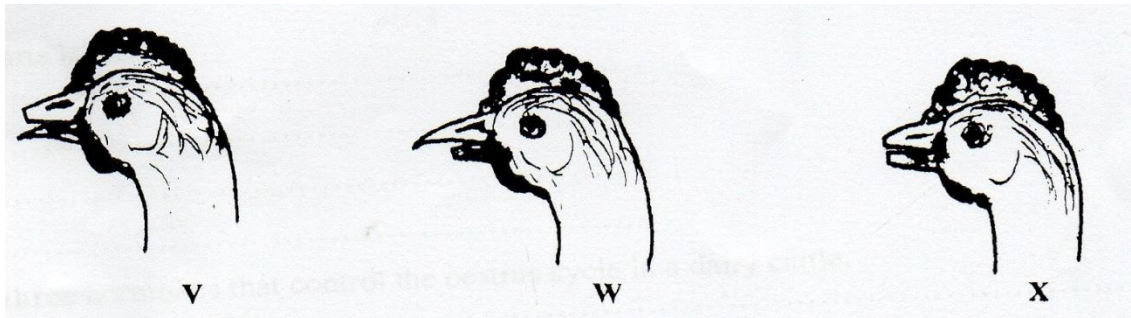
J (1mk)

H (1mk)

(iii) Name three reproductive hormones in dairy cattle (3mks)

.....
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.....

20 (a) The illustrations below labeled V,W, and X show three different ways some hens were debeaked.



i) Which hen was correctly debeaked? (1mk)

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.....

ii) state two reasons for your choice in (i) above (1mk)

.....
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.....

(b) Name any two tools which would be used for debeaking. (2mks)

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.....

21. Boran Dam X FRIESIAN SIRE – f1 heifer x charolais

(a) What type of breeding system is shown above? (1mk)

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.....

(b) Why would you recommend such a breeding system? (1mk)

.....
.....

(c) What characteristic in the heifer are you improving by using such a breeding system? (1mk)

.....
.....

SECTION C: (Answer any two questions)

22 (a) outline ten differences between a tractor drawn mould plough and an ox mouldboard (10mks)

(b) describe management of growers to point of lay (10mks)

23. (a) (i) Give three factors considered in siting a farm structure (3mks)

(ii) Describe the functions of each of the following parts of a plunge dip (7mks)

- (a) Foot bath
- (b) Entrance race
- (c) Roof
- (d) Drainage race
- (e) Jump
- (f) Dip tank
- (g) Exit step

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KENYA'S TOP SCHOOLS
K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

231/1

Biology

Paper 1 (THEORY)

2 hours.

INSTRUCTIONS TO CANDIDATES:

- a) Write your **NAME** and **INDEX NUMBER** in the spaces provided above.
- b) Sign and write the date of the examination in the spaces provided above.
- c) ALL answers must be written in the spaces provided.
- d) Additional pages must not be inserted.
- e) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- f) Candidates should answer all questions in English.

FOR EXAMINER'S USE ONLY:

Question	Maximum score	Candidate's score
1-23	80	
Total score	80	

Biology (Theory) Paper 1

1. State the significance of the following characteristics of living organisms. (2marks)

(i) Irritability

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

(ii) Reproduction

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

2. The scientific name *lantana camara* refers to a green herbaceous plant. Other related plants include *lantana trifoliata* and *vitex trifoliata*. From the list, identify the plants belonging to the same genus. (2marks)

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.....

3. Which cell organelle will be abundant in: (2marks)

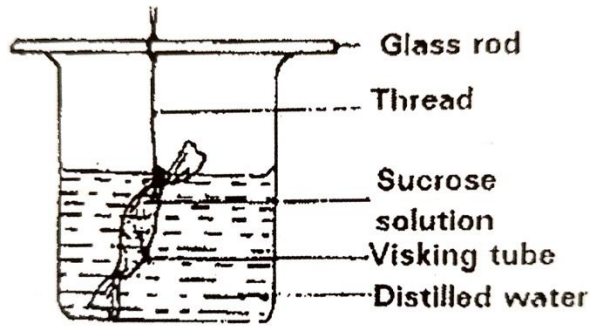
(i) Skeletal muscle cell

.....

(ii) Palisade cell

.....

4. An experiment was set up as shown below. The set up was left for 30 minutes.



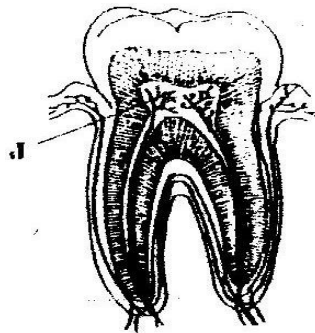
(i) State the observations made after 30 minutes. (1mark)

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

(ii) Explain the observations made in (i) above. (3marks)

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5. The diagram below represents a section through a human tooth



a) (i) Name the type of tooth shown (1 mark)

.....

(ii) Give a reason for your answer in (a) (i) above

(1 mark)

.....

.....

.....

b) State the functions of the structures found in part labeled J

(2 marks)

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.....

6. Describe what happens during the light stage of photosynthesis

(3 marks)

.....

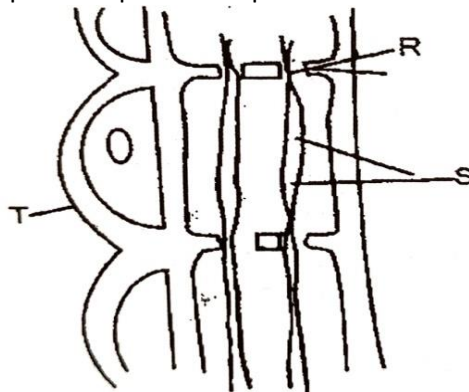
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7. The diagram below represents part of the phloem tissue.



a) Name the structures labeled R, S and a cell labeled T(3amrks)

R

S

Cell T.....

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

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.....
.....

8. a) What prevents blood in veins from flowing backwards? (1mark)

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.....
.....

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

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9. Differentiate between Active immunity and Passive immunity. (2marks)

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10. State three gaseous exchange structures in terrestrial plants. (3marks)

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11. Give two reasons why accumulation of lactic acid during vigorous exercise leads to an increase in heart beat. (2marks)

.....

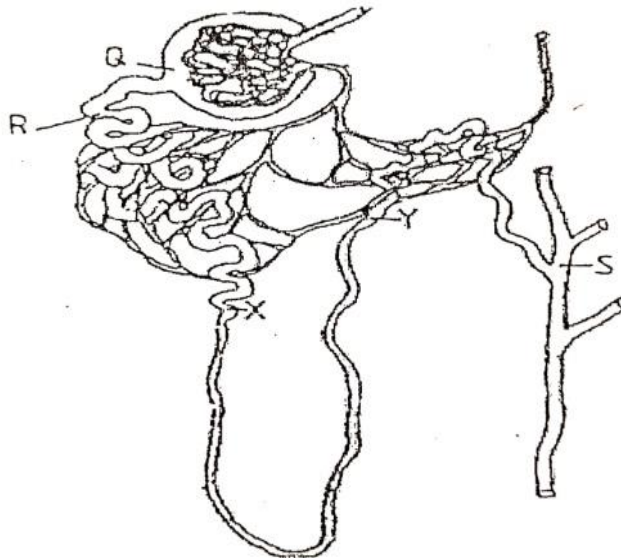
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12. The diagram below illustrates part of a Nephron from a mammalian kidney.



a) Name the fluid in the part labeled Q (1mark)

.....

b) Identify the process responsible for the formation of the fluid named in (a) above. (1mark)

.....

.....

c) Which two hormones exert their effects in the Nephron? (2marks)

.....

.....

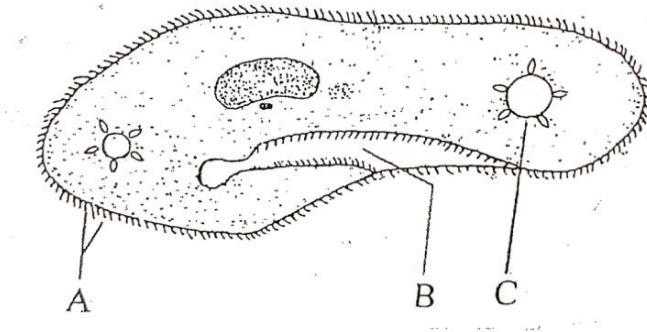
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13. Give one economic importance of the following plant excretory product. (1mark)

(i) Tannins

.....

14. The diagram below represents a living organism.



a) Name the structures labeled **A** and **C** (2marks)

A **C**

b) Identify the kingdom of the above organism. (1mark)

.....

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

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

15. Name the phylum, whose members possess a notochord. (1mark)

.....

16. Define the following terms: - (3marks)

(i) Ecological niche

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.....



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.....
(ii) Habitat

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.....
(iii) Carrying capacity

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.....
17. The figure below shows the amount of **DDT** at different levels in a food chain in a lake.



a) At what trophic level is **DDT** most likely to have the highest marked effect? (1mark)

.....

b) Suggest two ways in which the birds might have come into contact with **DDT** (2marks)

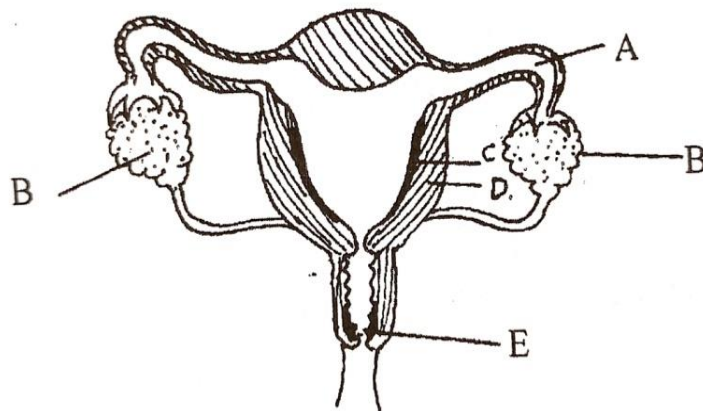
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c) Extract and write down a food chain from the above figure. (1mark)

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.....

18. Study the diagram below and use it to answer the questions that follow:



a) Name the part labeled E (1mark)

.....

b) What are the functions of the part labeled A? (2marks)

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

19. Explain how the following factors hinder self-pollination in plants. (2marks)

(i) Protogyny

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

(ii) Dioecism



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.....
.....

20. a) Name the part of the flower that develops into each of the following (2marks)

(i) Seed coat.

.....

(ii) Seed

.....

b) State two environmental conditions that can cause seed dormancy (2marks)

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

c) State two ways of breaking seed dormancy (2marks)

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d) Give one role of water in germination(1mark)

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.....

21. Define the following terms as used in genetics. (3marks)

(i) Alleles

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.....



(ii) Gene mutation

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.....
.....

(iii) Discontinuous variation

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.....

22. State two sex-linked traits located on the Y- chromosome (2marks)

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23. State three limitations of using fossil records as an evidence for organic evolution (3marks)

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24. State three types of neurons (3marks)

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25. Define the following types of responses (3marks)

(i) Phototropism



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.....

(ii) Chemotaxis

.....
.....

(iii) Thigmotropism

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.....

26. Differentiate between **support** and **movement** (2marks)

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K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

BIOLOGY

Paper 2

(Theory)

Time: 2Hours

Instructions to Candidates

- Answer all questions in section A by filling in the spaces provided.
- In Section B, Answer Question 6 (Compulsory Question) and any other one question from the remaining two questions (i.e. 7 & 8)

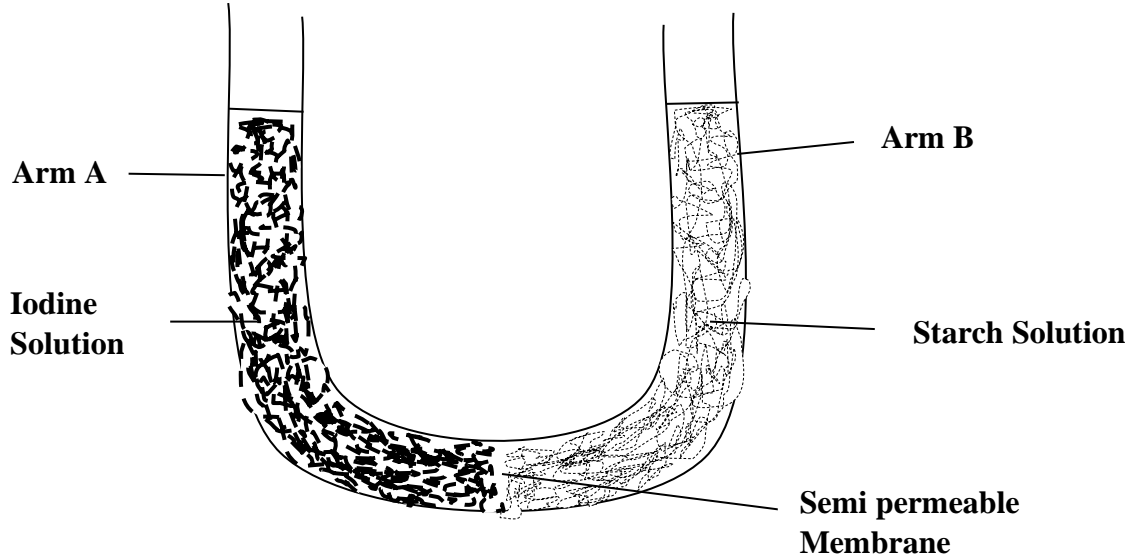
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Section	Question	Maximum Score	Candidates Score
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
	TOTAL	80	

SECTION A. (40 MARKS)

Answer all questions in this section in the spaces provided.

1. The set up below show an experiment in which iodine solution and starch were separated by a semi permeable membrane.



- (a) Name the process that is being investigated. (1mk)

.....
.....

- (b) (i) State the observations made in the two arms of the U-tube. (2mks)

Arm A

.....
.....

Arm B

.....
.....

- (ii) Account for your answer in (i) above. (2mks)

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.....
.....

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.....
(c) (i) State two applications of the process in (a) above in animals. (2mks)

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.....
.....
(ii) Name one factor that will affect the process named in (a) above. (1mk)

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.....
2. (a) (i) Name the components of blood that are absent in the glomerula filtrate. (2mks)

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

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.....
(b) (i) What would happen if a person produced less antidiuretic hormone. (1mk)

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.....
(ii) Name the disease described in b (i) above? (1mk)

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

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3. (a) (i) Premature baldness in a sex linked trait. A bald headed man marries a woman. Work out the genotype of the off springs. Use letter B to represent the gene for bald head. (4mks)

(ii) What is the probability that their daughter will have premature baldness? (1mk)

.....
.....

(iii) Give a reason for the answer in 3 (ii) above. (1mk)

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.....
.....

(b) The diagram below show the template strand of a Deoxyribonucleic acid molecule.

A	G	T	A	T	C	G
---	---	---	---	---	---	---

(i) Draw a diagram to represent a complimentary RNA strand. (1mk)



(ii) State one advantage of polyploidy in plants.

(1mk)

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.....

4. The table below shows some of the components found in 100cm³ of cow's milk, breast milk and breast milk substitute (formula milk).

component	cow's milk	Breast milk	breast milk substitute
Protein/g	3.3.	1.2	1.3
Sugar/g	4.2	6.4	7.0
Fat/g	3.0	4.0	1.4
Calcium /mg	120.0	120.0	49.0
Iron/mg	0.1	0.1	0.5
vitamin C/mg	1.0	2.0	8.3
Vitamin D/ μ g	20.0	200.0	1.2

(a) Name two main components of a normal healthy diet that do not appear in the table.(2mks)

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

(b) State which type of milk would be least likely to ensure the development of healthy bones and teeth, and explain your answer? (2mks)

Type of milk

Explanation

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

State which type of milk would provide a baby with the greatest amount of energy? Give your reasons (2mks)

Type of milk

Reasons

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

(c) Suggest why babies fed on breast milk may have more resistance to diseases than those fed on any other type of milk. (2mks)

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5. (a) What is the difference between Darwinian and Lamackian theories of evolution? (2mks)

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(b) What is meant by the following terms? Give an example in each case.

(i) Homologous (1mk)

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.....
.....

Example (1mk)

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.....

(ii) Analogous (1mk)

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Example (1mk)
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(iii) Vestigial Structures (1mk)
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.....
.....

Example (1mk)
.....
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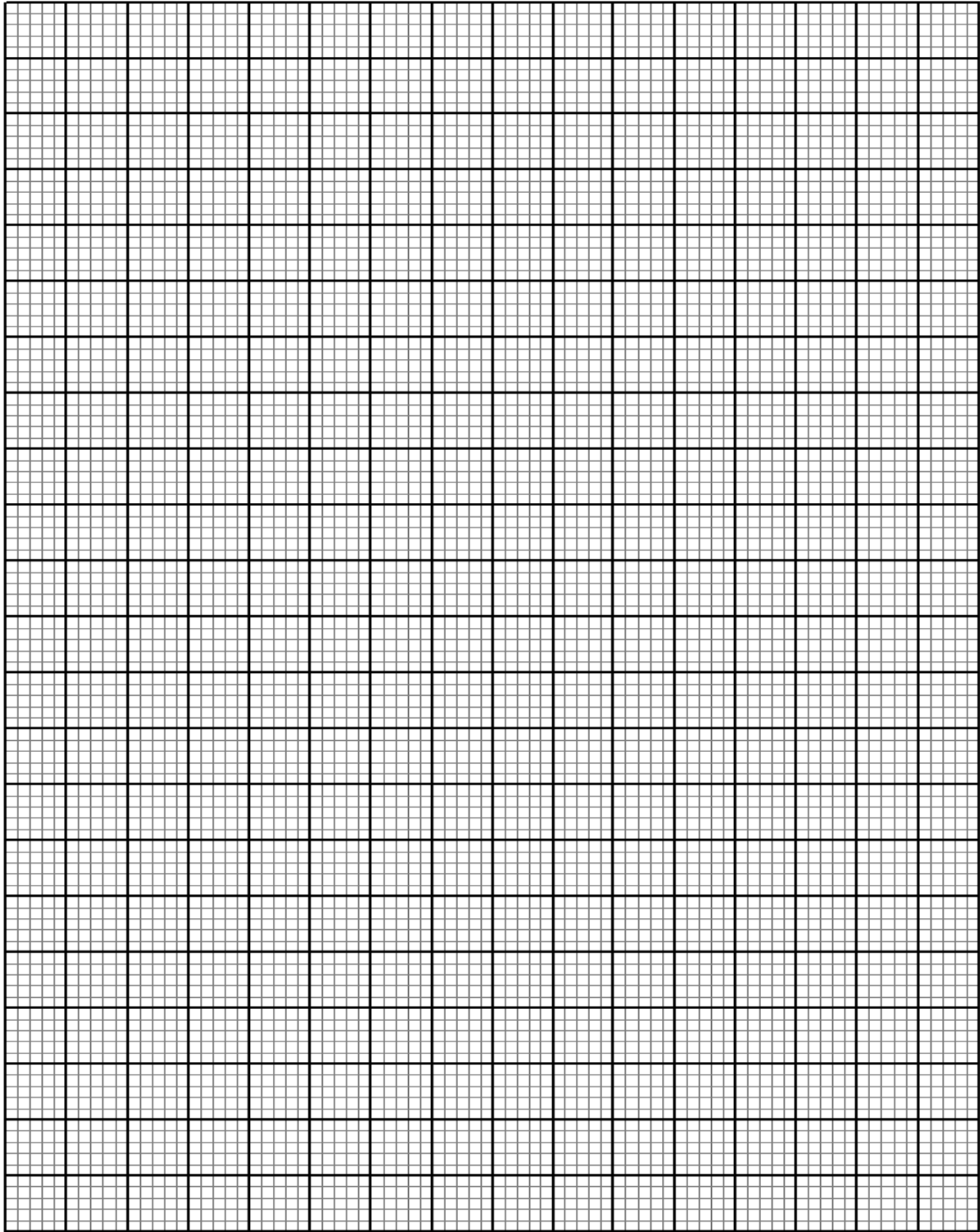
SECTION B

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

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

Time in days	Oestrogen mg/100cm ³	progesterone mg/100cm ³ of blood	Temperature in 0°C
1	20	0	36.4
3	25	0	36.7
5	30	0	36.7
7	35	0	36.8
9	48	0	36.6
11	64	0	36.7
13	80	0	36.4
15	140	50	36.6
17	70	130	37.2
19	60	160	37.1
21	130	130	37.2
23	130	90	37.0
25	80	50	37.2
27	20	0	36.4

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



(b) State the possible event taking place in the uterus during the first week. (1mk)

.....
.....

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

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.....

(d) Account for the sudden increase in the progesterone concentration between day 14 and day 18. (2mks)

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

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

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(g) State the function of the following:
(i) Testes. (2mks)

.....
.....



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KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

231/3

BIOLOGY

PAPER 3

(PRACTICAL)

TIME: 1% HOURS

INSTRUCTIONS TO CANDIDATES:

- a) Write your name and index number in the spaces provided above
- b) Sign and write the date of the examination in the spaces provided
- c) Answer ALL the questions in this paper
- d) You are required to spend the first 15 minutes of the 1 1/4 hours allowed for this paper reading the whole paper carefully before commencing your work.
- e) The 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:

Question	Maximum Score	Candidate' Score
1	11	
2	16	
3	13	
Total Score	40	

1. Using the piece of string provided, tie the visking tubing tightly at one end. Put 2cm of solution P into the visking tubing using a dropper to avoid spilling. Then tightly tie the other end and place it in a boiling tube containing 2cm³ of iodine solution.

a) (i) Leave it for 5 minutes then record your results below. (I mark)

Observation

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.....

(ii) Account for your results answer in a (i) above. (2 marks)

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b) (i) Make a transverse section of specimen D provided and made a labeled drawing.(3 marks)

(ii) Cut a strip of 4cm long by 2cm wide from the banana peel (of specimen D) and place on a petri dish containing solution L. Record your observation after 10 minutes in the table below. (2 marks)

	Length at start of experiment	Length at end of experiment
Strip of banana peel		

(iii) Account for your answer in b(ii) above. (3 marks)

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c) State the role of the process under investigation in organisms in 1a) (i) and in 1b) (ii) above.

(3 marks)

Process in 1 a) (i)

(1 mark)

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Process in 1 b) (ii)

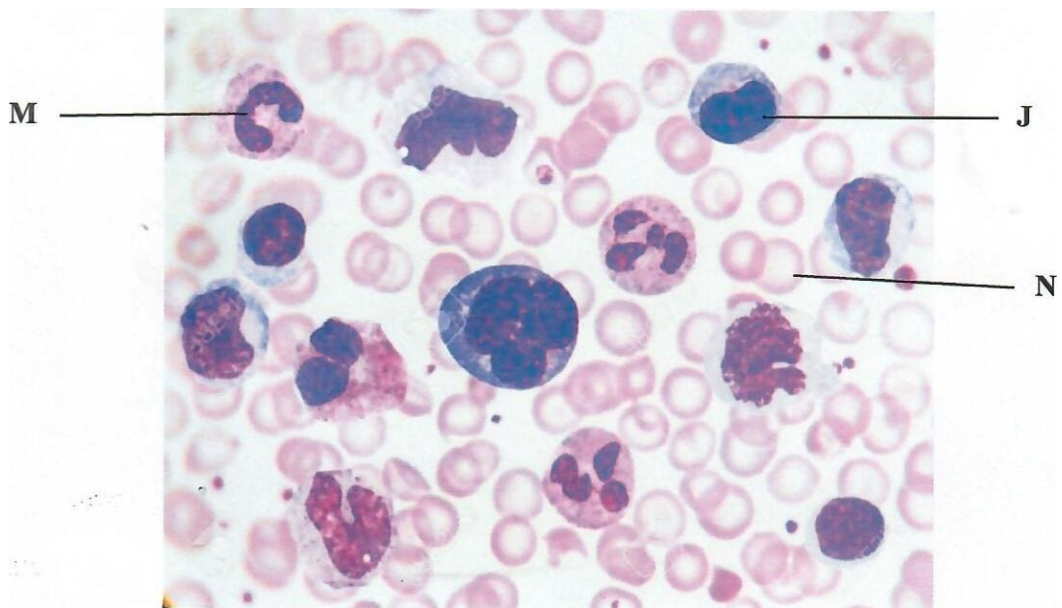
(1 mark)

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2. Below is a photomicrograph of blood smear showing several elements.



a) On it label any four elements of blood (4 marks)

b) Briefly explain the mode of action of elements M and J (2 marks)

M

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J

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c) What are the effects of high altitude on the numbers of element N.? (1 mark)

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d) State the function of element N and explain one functional adaptation of element N.

(i) Function of N (1 mark)

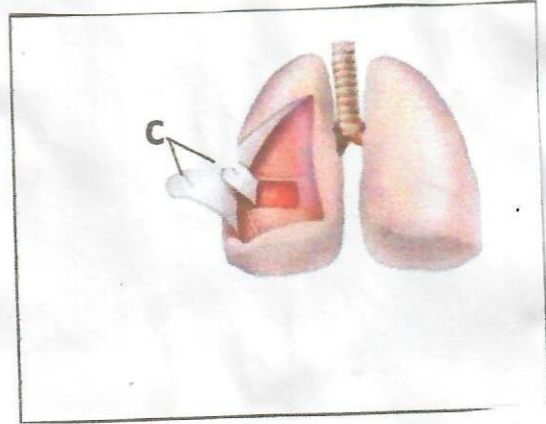
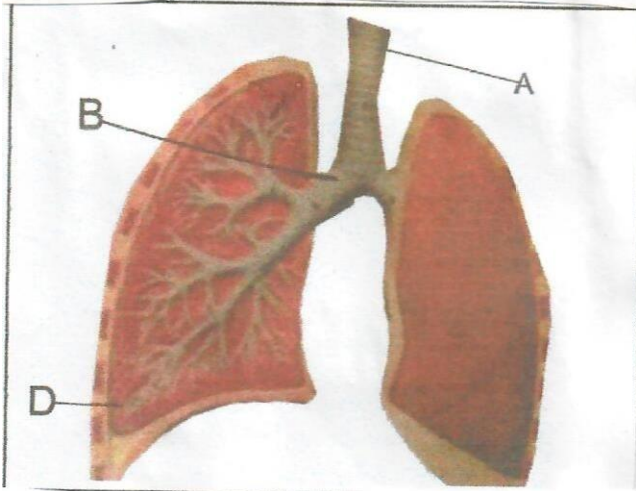
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(ii) Functional adaptation of N (2 marks)

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e)

Study the diagrams below and answer the questions that follow.



(i) Name the parts labeled A, B, C and D

(2 marks)

A.....

B.....

C.....

D.....

(ii) State the adaptation of the part labeled A to its function.

(2 marks)

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f) Identify the structures that perform similar functions as D above in: -

(i) Amoeba. (1 mark)

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(ii) Fish. (1 mark)

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3. (a) Examine photograph A, B1 and B2 carefully and answer the questions that follow. B2 was extracted from B1



(i) What name is given to the coiled part labeled T found on specimen A (1 mark)

T

(ii) Name the type of response exhibited by the coiled part on specimen A (1 mark)

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(iii) Name the stimulus responsible for the response named in (ii) above. (1 mark)

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(iv) Explain how the response exhibited by the coiled part on specimen A occurred.(2 marks)

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(v) State the biological significance of the response described in (iv) above to the survival of the specimen. (1 mark)

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(b) Use photographed specimen labeled B1 and B2 above to answer the questions below.

(i) State the agent of pollination for the specimen above. (1 mark)

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(ii) Give a reason for your answer (1 mark)

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Describe the external features of leaves of the specimen B2 (3 marks)

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Based on the floral parts, state the class to which specimen B belongs. (1 mark)

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Give a reason for your answer:in (iv) above (1 mark)

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Name:

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KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

565/1
BUSINESS STUDIES
PAPER1
Time: 2 Hours

INSTRUCTIONS TO CANDIDATE:

- Write your *name*, *AdmNo*, and *Stream* in the spaces provided.
- Answer all questions
- All answers must be written in the spaces provided.
- All questions carry equal marks
- Candidate should check the questions paper to ascertain that all pages are printed as indicated and no of questions missing.
- This paper consist of 7 printed pages

For Examiner’s Use Only

Questions	1	2	3	4	6	7	8	9	10	11	12	13	14
Marks													

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

TOTAL MARKS

1. Mr. Odhiambo has started a Kiosk in Nambale Town. Outline **FOUR** functions that he will perform as the owner of the business. (4mks)

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2. Indicate the type of journal in which each of the following transactions could be recorded. (4mks)

NO.	TRANSACTION	TYPE OF JOURNAL
a)	Bought a computer on credit	
b)	Returned goods previously bought on credits	
c)	Sold goods on credit	
d)	Bought shares in a company	

3. Taaka a retailer had a capital balance of sh. 320,000 as at 30th June, 2008. During the year ended 30th June 2009, the business made a net profit of sh.80, 000. Mokaya the proprietor made drawings of 4,000 each month for his personal use. Compute the business capital as at 30th June 2009. (4mks)



4. Give **FOUR** differences between a public limited company and private limited company. (4mks)

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5. State **FOUR** reasons why itinerant traders are becoming increasingly popular in Kenya. (4mks)

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6. Given below is a cash book extracted from the books of accounts of Patel Enterprises. (4mks)

2009			sh	sh	sh	2009					
1/12	Balance			1500	90,000	14/12	Bank	C	30,000		
	b/d										
2/12	Rono		2000	38,000		20/12	Equipment				80,000
14/12	Cash	C			30,000	30/12	Drawings		7,000		

In relation to the entries appearing in the cash book extract, state the transaction that took place on each of the following dates. (4mks)

a) 2nd December

2009.....

b) 14th December

2009.....

- c) 20th December
2009.....
- d) 30th December
2009.....

7.State **FOUR** reasons for increase in popularity of micro-finance institutions. (4mks)

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8.A successful manufacturing firm has been constantly releasing toxic waste into a nearby river.
Outline **FOUR** measures that consumers can take to stop the firm from such malpractices. (4mks)

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9.Highlight **FOUR** disadvantages of using machines in an office. (4mks)

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10. State **FOUR** factors that a person would consider when hiring a warehouse. (4mks)



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11. State FOUR ways of determining the prices of commodities in the market. (4mks)

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12. State whether each of the following transactions will increase, decrease or have no effect on balance sheet totals.

(4mks)

NO.	TRANSACTION	EFFECT
a)	Paid a creditor in cash	
b)	Bought a motor van on credit	
c)	A debtor paid by cheque	
d)	Owner	

13. Outline FOUR classifications of goods and services produced in an economy. (4mks)

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14. Highlight **four** benefits that accrue to a country that has a very high population. (4mks)

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15. Give **FOUR** fiscal measures that a government may use to control inflation. (4mks)

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16. Give **FOUR** situations when oral communication may be used in an office. (4mks)

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17. State **FOUR** uses of a business plan. (4mks)

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18. Outline **FOUR** circumstances under which a manufacture would prefer to sell his products directly to consumers instead of selling through intermediaries. (4mks)

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19. Highlight **FOUR** principles which guide the government in its expenditure. (4mks)

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20. Highlight **FOUR** factors that hinder expansion of railway transport in Kenya. (4mks)

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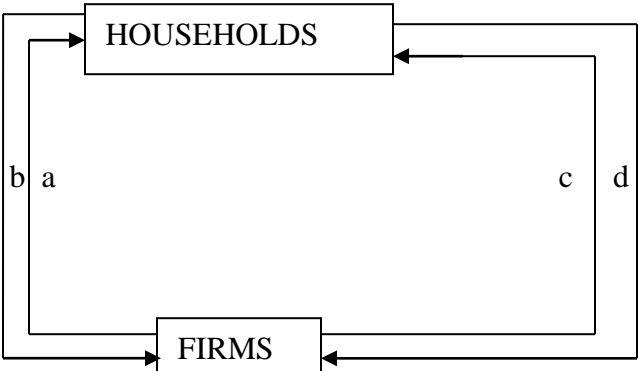
21. Give **FOUR** roles of ethical practices in Business. (4mks)

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22. Two following diagrams represent the circular flow of income between firms and household in an economy. Identify the flows labeled A, B, C and D and list them in the space provided. (4mks)



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23. Mention **FOUR** circumstances under which an insurance company may re-insure. (4mks)

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24. The following information relates to Kizito traders for the year ended 31st December 2009.

Gross Profit	140,000
Salaries	20,000
Electricity charges	8,000
Discount allowed	6,000
Discount received	26,000

Prepare a profit and loss account for Kizito Traders for the year ended 31st December 2009. (4mks)

25. State **FOUR** features of indirect production. (4mks)

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Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

565/2

BUSINESS STUDIES

Paper 2

Time: 2 ½ HOURS

INSTRUCTIONS TO THE CANDIDATES

1. *This paper contains six (6) questions*
2. *Answer any FIVE questions*
3. *Each question has two sections A & B*
4. *Each question carry 20 marks*
5. *Answer all questions in the space provided after question six*
6. *Answer all questions in English*

For Examiner’s Use Only

Question no.						Totals marks
(a)						
(b)						
Sub – total						%

1. (a) Outline **five** advantages that a partnership has over a sole proprietorship. (10mks)
 (b) Explain how **five** external environment factors negatively affect a business.(10mks)

2. (a) Highlight **five** disadvantages of direct tax. (10mks)
 (b) Kenya does not manufacture mobile phones. Describe **five** channels of distribution that are used to ensure those products reach the Kenyan consumers. (10mks)

3. (a) Discuss any **Five** current trends in communication (10mks)
 (b) The following balances were extracted from the books of accounts of Fatuma as at 31st December 2020.

Sales	100,000
Sales returns	5,000
Purchase returns	2,000
Purchases	190,000
Carriage outwards	2,400
Stock (1/1/2019)	22,000
Rent	8,000
Insurance	6,000
Salaries	3,600
Discount received	2,800

Additional information

As at 31st December 2009, stock was valued at shs. 42,000

Required

- Prepare trading, profit and loss a/c for the year ended 31st December 2020 (10mks)
4. (a) Explain any **Five** international trade restriction methods (10mks)
 (b) With the help of a well labeled diagram, state the effect of the shift of the supply curve to the left when demand is held constant. (10mks)

5. (a) Highlight **Five** factors that influence the level of national income in an economy. (10mks)
(b) As at 1st June 2019, the books of Ang'eeh showed the following balances:

Cash Kshs. 20,000 and bank overdraft amounting to Kshs. 8, 600

- June 3: Nafula, a debtor, settled her account of Kshs. 16,000 by a cheque of kshs.15,000.
- 6: Paid rent by cash ksh. 8,000
- 10: Deposited kshs. 6,000 into the business bank account from the cash till.
- 15: Settled Wanjala's Account of shs. 20,000 and was allowed a discount of 1%
- 18: Deposited kshs. 28,000 in the bank from private resources
- 21: Cash sales kshs. 10,000
- 24: Ojugu, a debtor settled his account of 8,000 by cheque having deducted a 20% discount.
- 26: Purchased furniture of kshs.5,000 paying by cheque
- 28: Received kshs. 36,000 cash from Nabwire
- 29: The cheque deposited by Nafula on 3rd was dishonored
- 30: Banked all the available cash except kshs.1,600

Required: Prepare a duly balanced three column cash book for Ang'eeh for the month of June 2019. (10mks)

6. (a) Explain the meaning and the circumstances under which each of the following means of payment may be used ;
- (i) Cash
 - (ii) Credit transfer
 - (iii) Bank draft
 - (iv) Standing order
 - (v) Postage stamps

- (b) Give five differences between small scale firms and large scale firms (10mks)

Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

233/1

CHEMISTRY

Paper 1

(THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your *name* and *Index Number* in the spaces provided above.
- *Sign* and *write date* of examination in the spaces provided above.
- Answer *ALL* questions in the spaces provided.
- *Mathematical tables* and *electronic calculators* may be used.
- All working *MUST* be clearly shown where necessary.

For Examiner's Use Only

Questions	Maximum score	Candidate's Score
1-27	80	

1.

a. Define the term **half-life** as used in radioactivity. (1mk)

.....

.....

.....

b. 100g of radioactive substance was reduced to 12.5g in 15.6years. **Calculate** the half-life of the substance. (2mks)

2. You are provided with water and usual laboratory apparatus. Describe how you would fully separate solid lead (II) carbonate from a mixture of iron fillings, lead (II) carbonate and sodium carbonate. (3mks)

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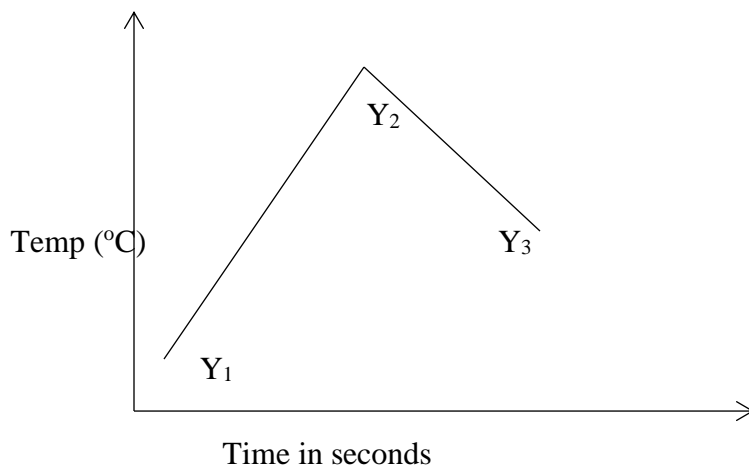
3. In order to determine the molar heat of neutralization of sodium hydroxide, 100cm³ of 1M NaOH and 100cm³ of 1M HCl both at the same initial temperature were mixed and stirred continuously with a thermometer. The temperature of the resulting solution was recorded after every 30 seconds until the highest temperature was attained. Thereafter the temperature of the solution was recorded for further two minutes.

a. Write the ionic equation for the reaction which took place. (1mk)

.....

.....

- b. The sketch below was obtained when the temperature of the mixture were plotted against time. Study it and answer the questions that follow.



- i. What is the significance of point Y₂ (1mk)

.....

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- ii. **Explain** the temperature change;
Between Y₁ and Y₂ (1mk)

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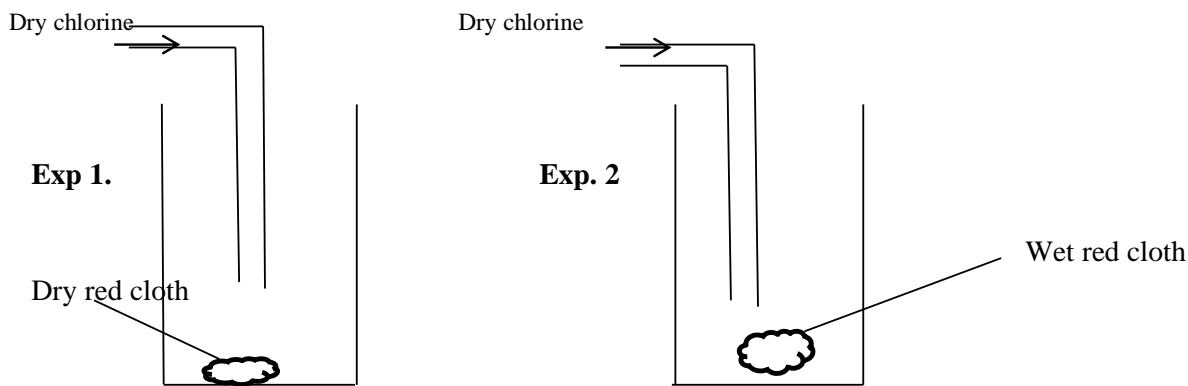
- Between Y₂ and Y₃ (1mk)

.....

.....

.....

4. Dry chlorine gas was passed through two pipes of coloured cotton cloth as shown below.



a. **State** what is observed in each of the experiment;
Experiment 1

(1mk)

.....

.....

.....

Experiment 2

(1mk)

.....

.....

.....

b. Explain your observation using an equation.

(1mk)

.....

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5. Two elements **A** and **B** have electronic configuration 2.8.3 and 2.6 respectively.

a. To which group and period does element B belong?

(1mk)

.....

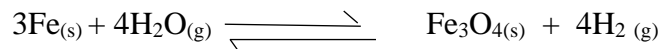
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b. If the two react, what is the formula of the compound they form? (1mk)

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6. Iron fillings react with steam according to the equation given below.



State and explain the effects of each of the following on the equilibrium.

i. Increase in pressure (2mks)

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

ii. Addition of magnesium ribbon to the equilibrium mixture. (2mks)

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

7. Unknown substances had PH values as shown in the table below.

Substance	PH values
A	6.0
B	2.0
C	8.0

State which substance is likely to be;

i. Lemon juice (1mk)

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

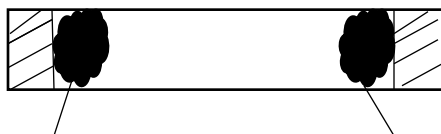
ii. Phosphoric (v) acid (1mk)

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iii. **Identify** a substance that would be a better electrolyte? (1mk)

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8. In an experiment to study diffusion of gases, the following set up was used.



Cotton wool
Soaked in Conc
Ammonia

Cotton wool
soaked in Conc
hydrolic acid

i. **State and explain** the observations made in the experiment. (2mks)

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

ii. Write an equation for the reaction that occurs in the experiment. (1mk)

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

9. An electric current was passed through molten potassium fluoride using inert electrodes.

a. Name the products at;

Anode

(1mk)

.....
.....
.....
Cathode

(1mk)

.....
.....
.....
b. Write an equation for the reaction at the anode.

(1mk)

.....
10. During the extraction of copper and zinc from their ores, some of the processes include;

- i. Crushing
- ii. Mixing of the crushed ore with oil and water and bubbling air through it.

a.

i. Name the process (ii) above.

(1mk)

.....
.....
.....
ii. What is the purpose of process (ii) above?

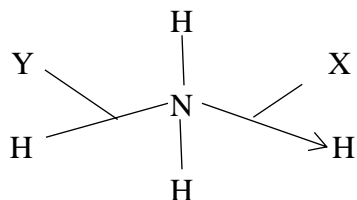
(1mk)

.....
.....
.....
b. Bronze is an alloy of copper and another metal. **Identify** the other metal. (1mk)

11. Name **another** gas which is used together with oxygen in welding. (1mk)

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

12. The structure of ammonium ion is shown below.



a. Name the type of bond represented by X and Y

X (1mk)

Y (1mk)

b. How many electrons are used in bonding in the ammonium ion? (1mk)

.....
.....

13. A dibasic acid $\text{H}_2\text{C}_2\text{O}_4\text{nH}_2\text{O}$ of concentration 6.3g/dm^3 was titrated against NaOH solution. 25cm^3 of the acid solution required 15.6cm^3 of 0.16MNaOH for complete neutralization. **Calculate** the value of n in the formula. (H=1, O=16, C=12) (3mks)

14. The table below shows the solubility of potassium nitrate and potassium chlorite at various temperatures.

Salt	Solubility at various temperatures	
	50°C	20°C
KNO ₃	86g	31g
KClO ₃	18g	8g

A mixture of salts contains 20g of KNO₃ and 18g of KClO₃ in 100g of water at 50°C.

a. **State** the method which may be used to separate the mixture. (1mk)

.....

b. If the mixture was cooled from 50°C to 20°C, **state** and **explain** what would be observe. (2mk)

.....

15.

a. Name the following organic compounds.



.....



.....

b. Below is a simple representation of a soap molecule.



Polar head

Non polar head

Using the structure above show how soap removes an oil smear from the fabric below.(2mks)

16. Explain how a sample of lead(ii) chloride can be prepared using the following reagents.

i. Dilute nitric (v) acid

ii. Dilute hydrochloric acid

iii. Lead (ii) carbonate

(3mks)

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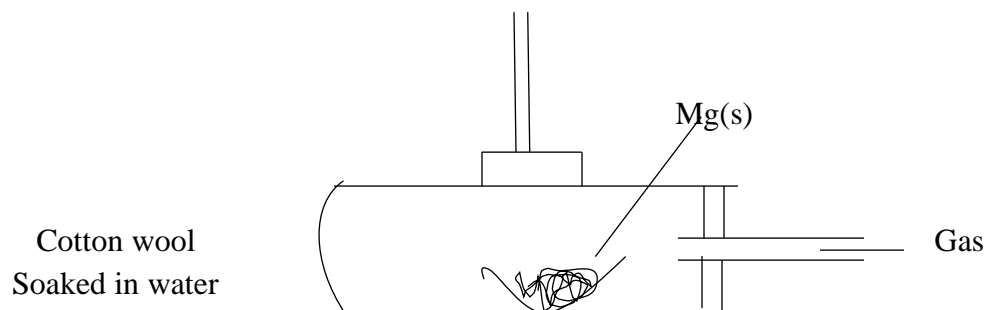
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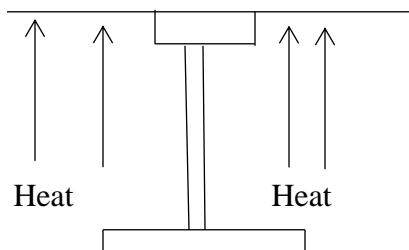
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17. The diagram below represents a set up used to react magnesium with steam. Study it and answer the questions that follow below.





i. **State** the observation made in the combustion tube. (1mk)

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ii. Why would it not be advisable to use potassium in place of magnesium In the above set up. (1mk)

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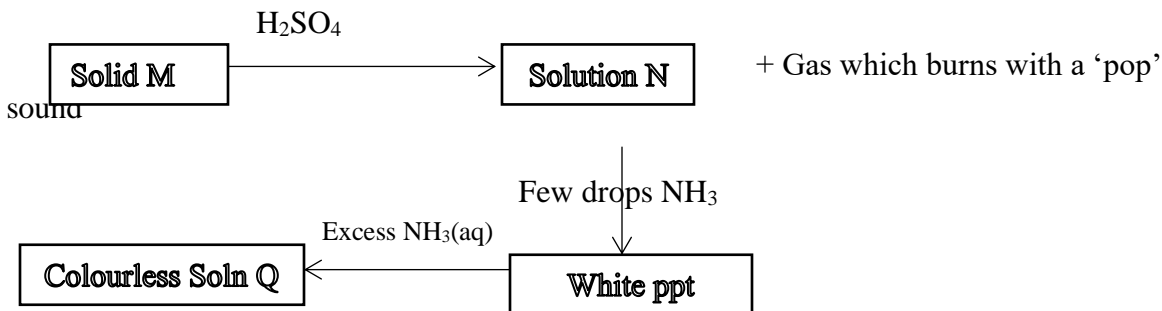
iii. Explain **why** cotton wool is heated prior to heating magnesium (1mk)

.....

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18. The scheme below shows some reaction sequence starting with solid M.



i. Name solid M (1mk)

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ii. Write the formula of a complex ion present in solution Q (1mk)

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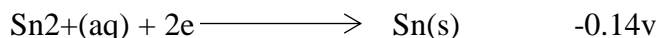
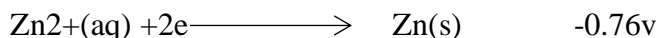
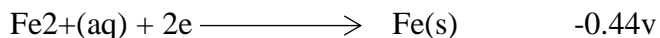
iii. Write an ionic equation of the reaction between Barium nitrate and solution N.(1mk)

.....

.....

19.

a. Below are standard reduction potentials of 3 electrodes.



Calculate the electromotive force of a cell formed between Fe/Fe²⁺ half-cell and Zn/Zn²⁺ half-cell. (2mks)

b. Draw a clearly labeled diagram of a set up you would use to electroplate an iron spoon with silver metal. (2mks)



20.

a. Name the **process** of extracting Sulphur. (1mk)

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b. What is the **role** of super-heated water? (1mk)

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c. State **two** uses of sulphur (1mk)

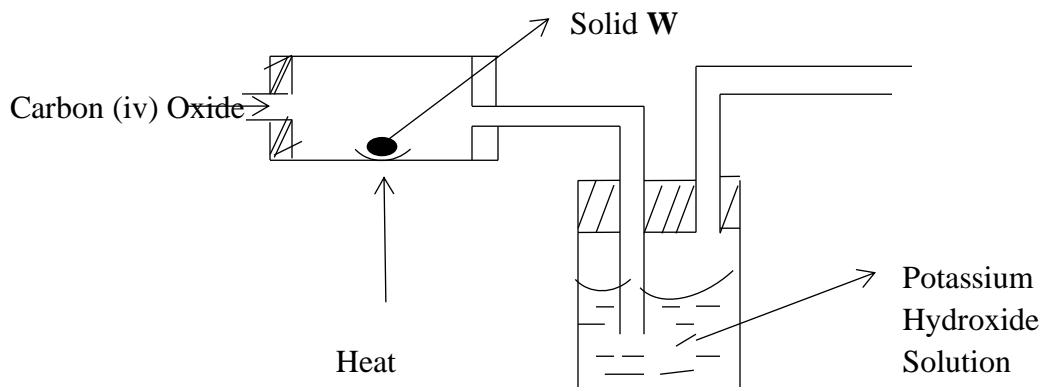
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21. The diagram below shows how carbon (ii) oxide can be prepared starting with carbon (iv) oxide and solid W. study it and answer the questions that follow.



a. With reasons, **state** a suitable location where such an experiment should be rightly conducted. (1mk)

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b. What is the purpose of concentrated potassium hydroxide? (1mk)

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c. Identify solid W (1mk)

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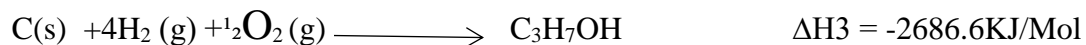
22.

a. Explain how you would separate a mixture of nitrogen and oxygen. (2mks)

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b. **Draw** a well labeled diagram to show the percentage composition of oxygen in air can be determined. (2mks)

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



a. Define ‘**enthalpy** of formation’ (1mk)

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.....
.....

b. Determine the molar enthalpy of formation of propanol. (2mks)

24. Most natural water occurs as permanent hard water or temporary hard water.

a. Name **two** compounds that cause;

i. Temporary hardness (1mk)

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

ii. Permanent hardness (1mk)

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b. How is temporary hardness removed from water? (1mk)

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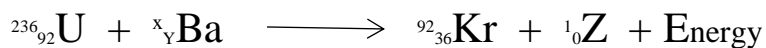
c. State **one** disadvantage of using hard water in boilers. (1mk)

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25. Both Sodium and Aluminum are metals in period 3 yet sodium has much lower melting point than aluminum. **Explain.** (2mks)

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26. Determine the values of X and Y in the equation below.



x..... **Y**..... (1mk)

27. State **two** effects of emitting SO₂ in the environment. (1mk)

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Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

233/3

CHEMISTRY

Paper 2 (THEORY)

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your *name, School and Index Number* in the spaces provided above.
- *Sign and write date* of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided.
- *Mathematical tables and silent non-programmable electronic calculators may be used.*
- *All working **MUST** be clearly shown where necessary.*
- *Candidates should answer the questions in **English***
- *Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing*
- *This paper contains 9 printed pages*

For Examiner's Use Only

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

1.

a. The information below relates to element N, P, Q, R and S. Study it and answer the questions that follow. The letters are not the actual symbols for the elements.

Element	Atomic radius(mm)	Ionic radius(mm)	Formula of oxide	Melting point of oxide
N	0.364	0.421	N ₂ O	-119
P	0.830	0.711	PO ₂	837
Q	0.592	0.485	Q ₂ O ₃	1466
R	0.381	0.446	R ₂ O ₅	242
S	0.762	0.676	SO	1054

i. Name the elements that are metal. **Give** a reason. (2mks)

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ii. Compare the melting points of the oxides of S and R in terms of structure and bonding. (2mks)

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iii. Name the pair of elements that would react most vigorously with each other?
Explain (2mks)

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b. The table below has information about chlorides of elements in period 3 of the periodic table:

Sulphur to sulphur

Chloride	NaCl	MgCl ₂	AlCl ₃	SiCl ₄	PCl ₅
Melting point (°C)	801	712	Sublimes at 183	-70	-80

What are the possible pH values of the solutions formed when the following chlorides are dissolved in water? Explain

MgCl₂ (1mk)

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.....

.....

AlCl₃ (1mk)

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.....

c. The molecular formula of Aluminum chloride is Al₂Cl₆. Draw the structural (not dot and cross diagram) of Aluminum chloride indicating clearly the different types of bonds present. (2mks)

d. Using dot (●) and cross (×), draw a diagram to show bonding in sodium chloride. (Na=11, Cl=17) (2mks)

2.

a. What is the molar enthalpy of neutralization? (1mk)

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b. In order to determine the molar heat of neutralization of sodium hydroxide, 100cm³ of 1M sodium hydroxide and 1M of hydrochloric acid both at the initial temperature were mixed and stirred continuously using a thermometer. The temperature of the resulting solution was recorded after every 30seconds until the highest temperature was attained. Thereafter the temperature of the solution was recorded for a further two minutes.

i. Why was it necessary to stir the mixture of the two solutions? (1mk)

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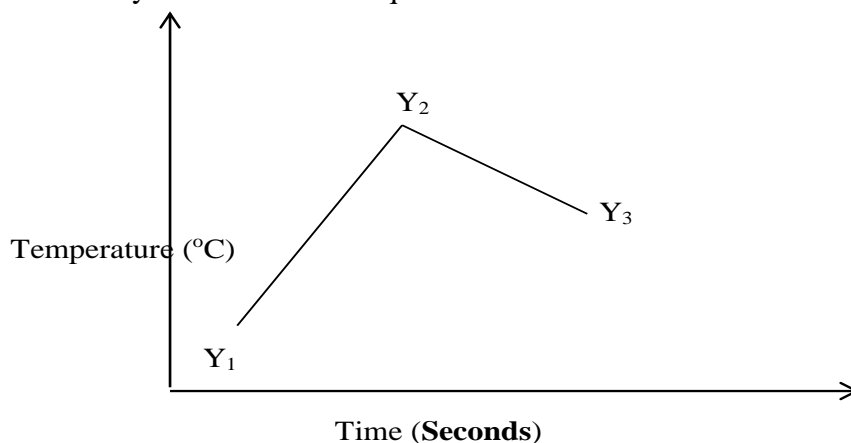
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ii. Write an ionic equation for the reaction that took place. (1mk)

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iii. The sketch below was obtained when temperature of the mixture was plotted against time. Study it and answer the questions that follow.



Explain the temperature changes between points
Y₁ and Y₂

(1mk)

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.....
.....

Y₂ and Y₃

(1mk)

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.....

- iv. If the initial temperature for both solution was 25°C and the highest temperature was 31.4°C for the mixture. **Calculate;**
Heat change for the reaction (Specific heat capacity of solution=42Jg⁻¹K⁻¹, Density of the solution =1gcm⁻³) (2mks)

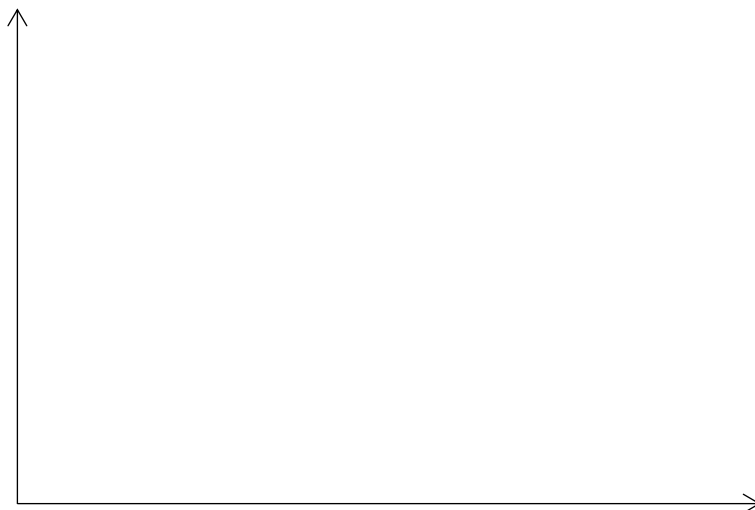
Molar heat of neutralization of sodium hydroxide.

(2mks)

- v. **Explain** how the molar heat of neutralization obtained in this experiment would compare with one that would be obtained using 1.0M ethanoic acid and 100cm³ of 1M sodium hydroxide solution. (2mks)

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Draw an Energy level diagram for the reaction represented by reaction between hydrochloric acid and sodium hydroxide solution. (3mks)



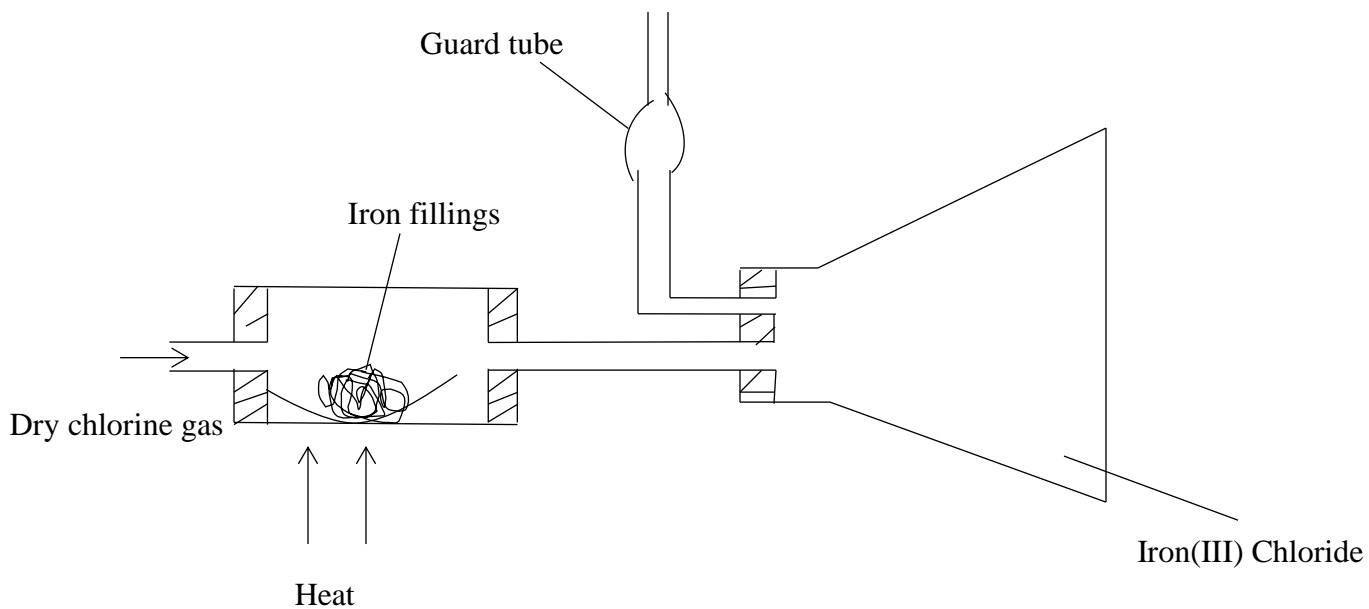
3.

a. Give the name of **one** reagent which when reacted with concentrated hydrochloric acid produces chlorine gas. (1mk)

.....

.....

b. The set up below was used to prepare iron (III) chloride using the apparatus shown in the diagram below.



i. State **one** precaution that should be taken in carrying out the above experiment. (1mk)

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ii. Explain why

Calcium oxide would be preferred to calcium chloride in the guard tube. (2mks)

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It is necessary to pass chlorine gas through the apparatus before heating begins. (2mks)

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iii. Write a **chemical** equation for the reaction that took place in the guard tube.(1mk)

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iv. What property of Iron (III) chloride makes it possible to be collected as shown in the diagram? (1mk)

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v. During the reaction in the combustion tube, the total mass of iron (III) chloride formed was found to be 1.5g. **Calculate** the volume of chlorine gas that reacted with iron. (Fe=56.0, Cl=35.5 and molar gas volume at 298k is 24,000cm³) (3mks)

c. **Draw and name** the structure of the compound formed when excess chlorine gas is reacted with ethane gas. (2mks)

d. State **one** use of chlorine gas. (1mk)

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4.

a. Give the systematic names for the following compounds

i. $\text{HCOOCH}_2\text{CH}_3$ (1mk)

.....

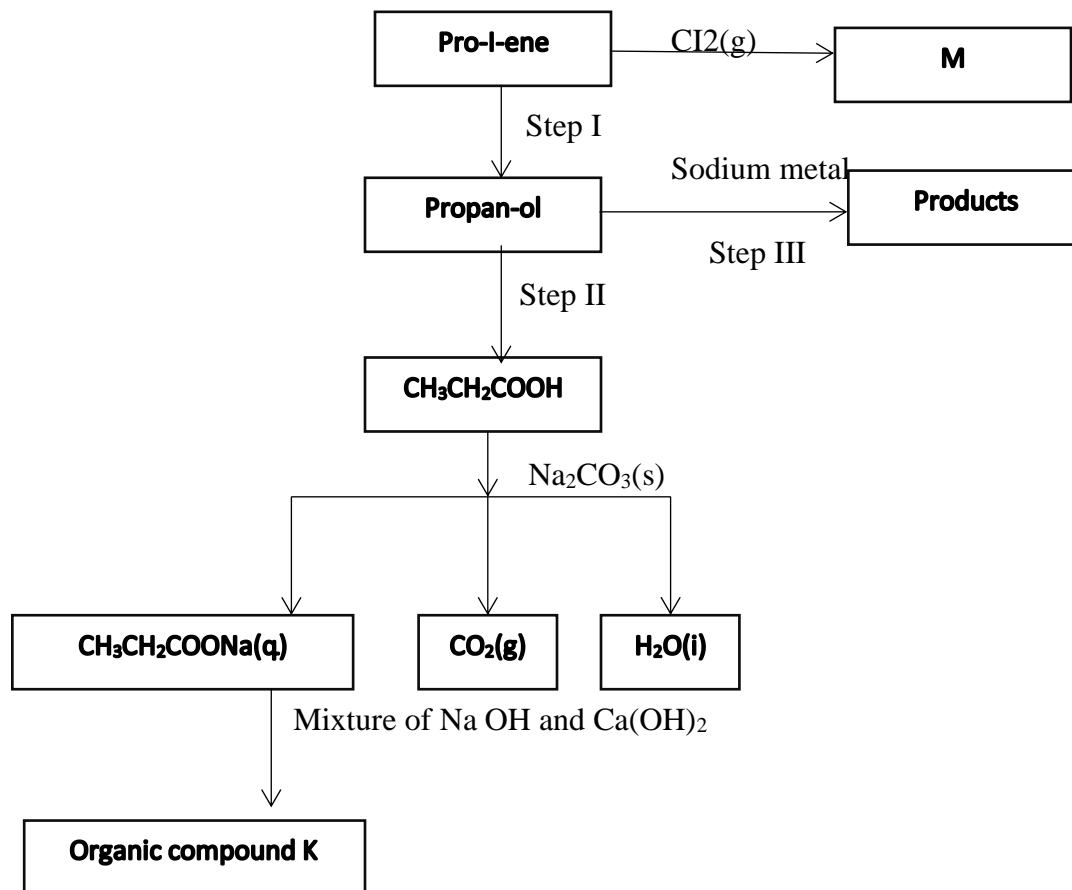
ii. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHCH}_2$ (1mk)

.....

iii. $\text{CH}_3\text{CH}_2\text{CH}_3$

(1mk)

b. Study the flow chart below and use it to answer the questions that follow



i. Identify the organic compound **K**

(1mk)

ii. Write the formula of **M**

(1mk)

iii. Give **one** reagent that can be used in Step I

(1mk)

.....
.....

Step II

(1mk)

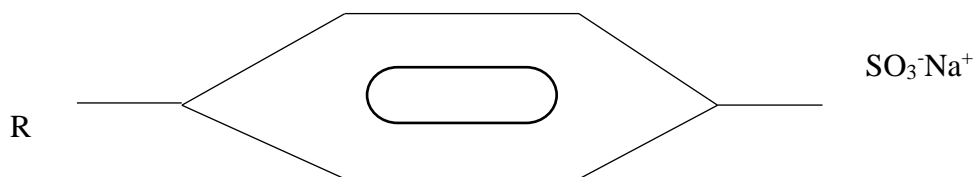
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iv. Write the equations for the reaction in **step II**

(1mk)

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.....

c. The structure below represents a type of cleansing agent.

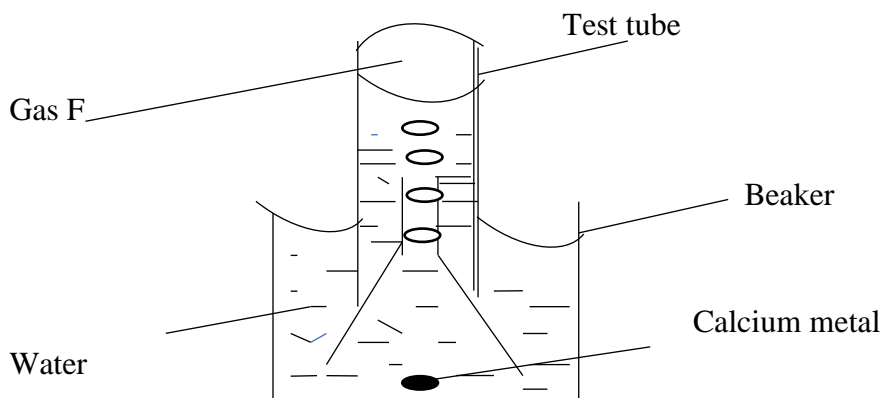


Describe how the cleansing agent removes grease from a piece of cloth. (3mks)

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5.

- a. The set up below was used to collect gas F, produces by the reaction between water and calcium metal



- i. Name gas **F** (1mk)

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- ii. At the end of the experiment, the solution in the beaker was found to be a weak base. **Explain** why the solution is a weak base. (2mks)

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- iii. Give **one** laboratory use of the solution formed in the beaker (1mk)

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.....

- b. When excess calcium metal was added to 50cm³ of 2 M aqueous copper (II)nitrate in a beaker, a brown solid and bubbles of gas were observed.

- i. Write **two** equations for the reactions which occurred in the beaker. (2mks)



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ii. **Explain** why it is not advisable to use sodium metal for this reaction. (2mks)

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c. **Calculate** the mass of calcium metal reacted with copper(II)nitrate solution (Relative atomic mass of Ca=40) (2mks)

6.
a. Write the **formula** of the complex Ion formed in each of the reactions below.
i. Lead metal dissolves in hot alkaline solution. (1mk)

.....
.....



ii. Zinc hydroxide dissolves ammonia solution. (1mk)

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b. Give the name of each of the processes described below which takes place when the salts are exposed to air for some time.

i. Anhydrous copper (II) sulphate becomes wet. (1mk)

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ii. Iron (III) chloride forms an aqueous solution. (1mk)

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iii. Fresh crystals of sodium carbonate decahydrate become covered with a powder of solution of carbonate monohydrate. (1mk)

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c. A certain hydrate salt has the following composition by mass. Iron 20.2%, sulphur 11.5%, water 45.5% and the rest oxygen. Its relative formula mass is 278.

i. **Determine** the formula of the hydrated salt (Fe=56, S=52, O=16, H=1) (3mks)

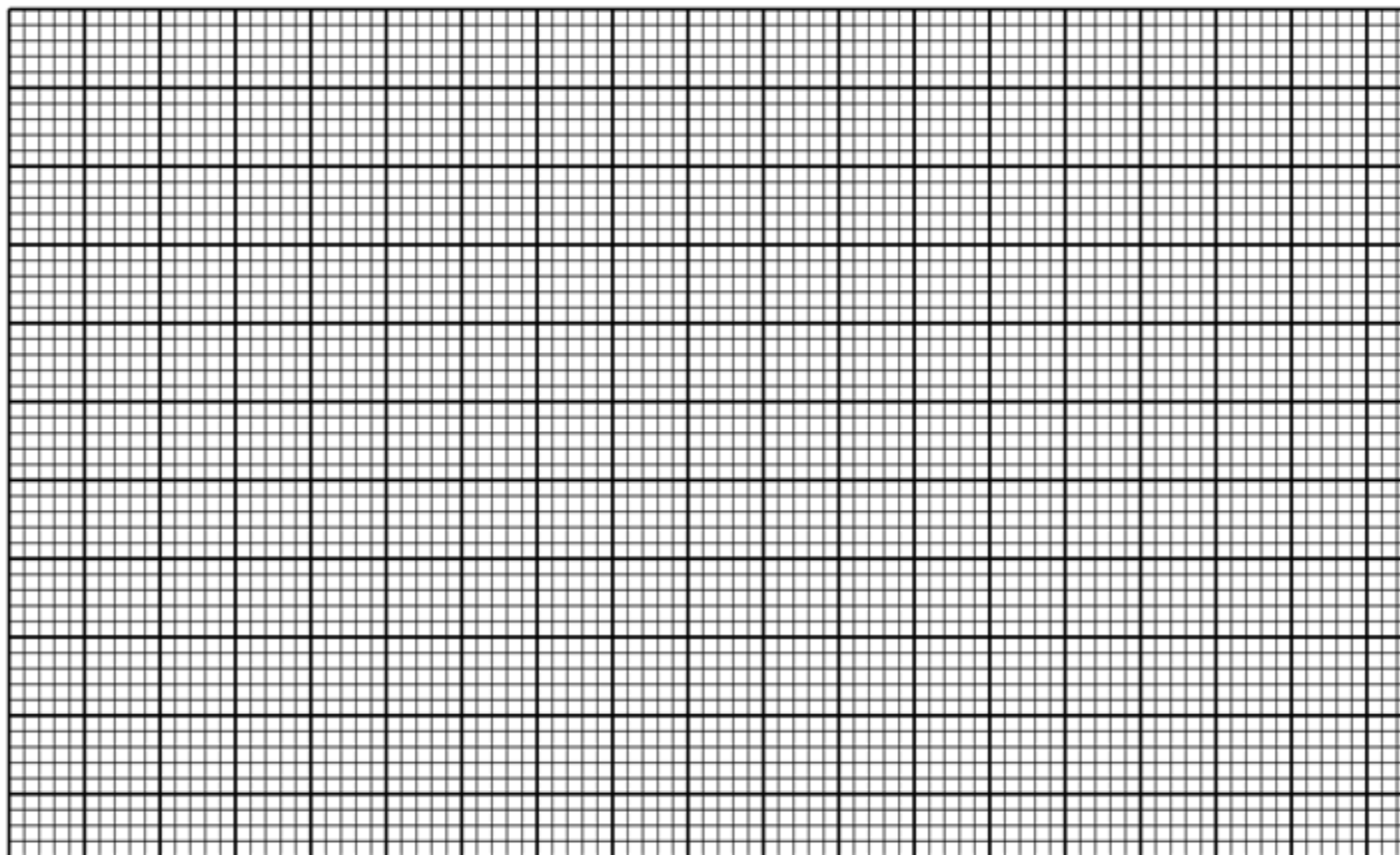


- ii. 6.95g of the hydrated salt were dissolved in distilled water and the total volume made to 250cm³ of solution. **Calculate** the concentration of the salt solution. (2mks)

7.The table below shows solubility of potassium nitrate and lead nitrate

Temperature °C	0	20	40	60	80	100
Solubility of KNO ₃ in 100g of H ₂ O	12.5	32.5	62.5	110.0	137.5	
Solubility of Pb(NO ₃) ₂ in 100g of H ₂ O	37.5	52.5	69.0	87.5	110.0	131.0

- i. Draw the solubility curves for both salts on the same axis. (Temperature on the x-axis)(3mks)



ii. A solution of lead nitrate contains 90g of the salt dissolved in 100g of water at 100°C. This solution is allowed to cool to 25°C

At what temperature will crystals first appear? (1mk)

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What mass of crystals will be present at 25°C (1mk)

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iii. Which of the **two** salts is more soluble at 30°C (1mk)

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iv. Determine the concentration of lead nitrate in moles per litre when the solubility of the two salts are the same. (**Pb=207.0, O=16.0, K=39.0, N=14.0**) (3mks)



Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

233/3

CHEMISTRY

Paper 3

(PRACTICAL)

DECEMBER 2021

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

- Write your **name**, **School** and **Index Number** in the spaces provided above.
- **Sign** and **write date** of examination in the spaces provided above.
- Answer **ALL** questions in the spaces provided.
- You are not allowed to start working with the apparatus for the first 15 minutes of the 2¼ 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 that you may need.
- Mathematical tables and electronic calculators may be used.
- All working **MUST** be clearly shown where necessary.
- This paper contains 9 printed pages

For Examiner's Use Only

Questions	Maximum score	Candidate's Score
1	23	
2	08	
3	09	
Total Score	40	

1. You are provided with :
- Solution **Q**, 2M Hydrochloric acid.
 Solution **P**, 0.15M Sodium thiosulphate
 Solution **R**, Sodium carbonate

Procedure 1

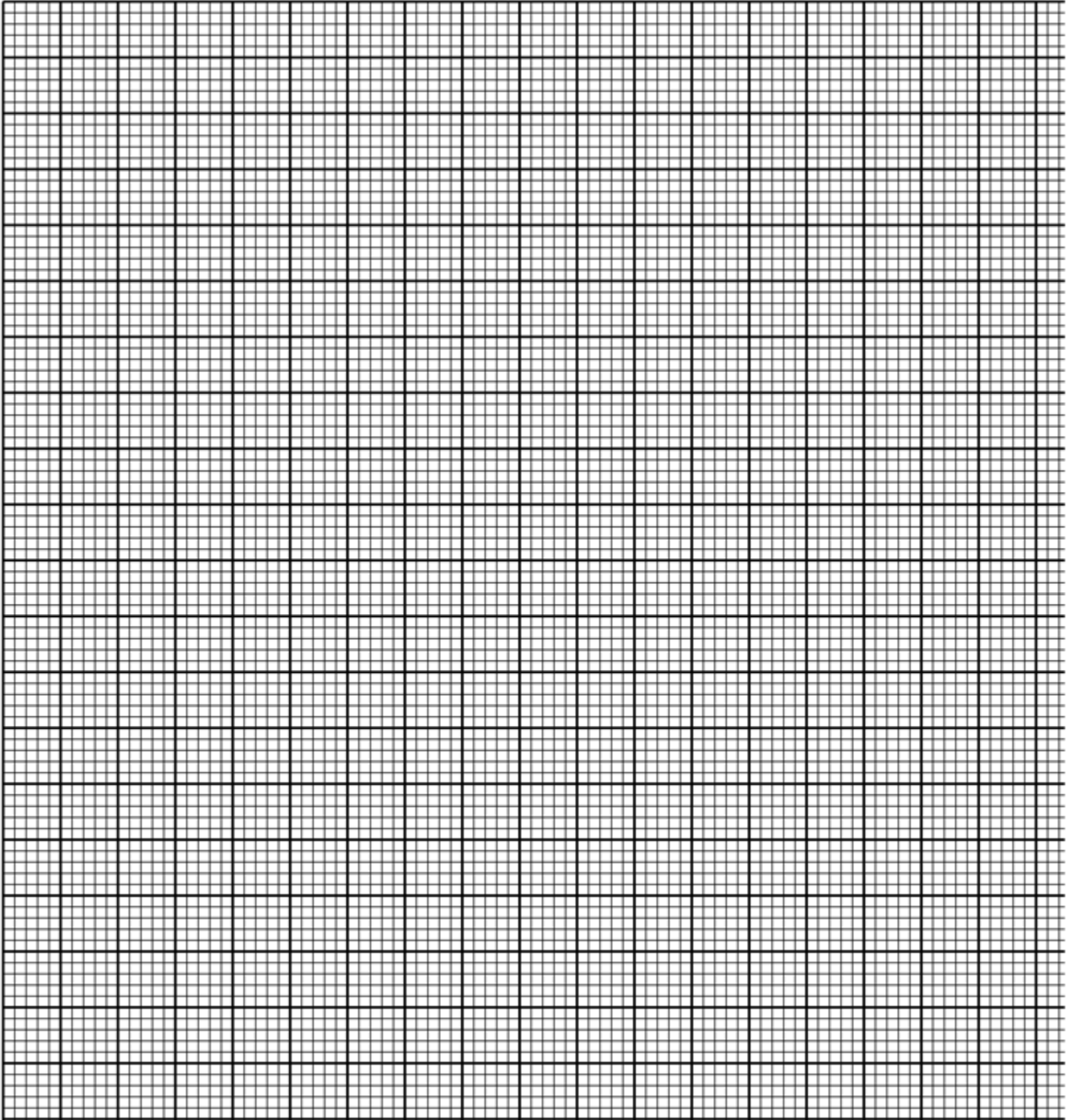
Measure 20cm³ of 0.15M Sodium thiosulphate (solution **P**) into a 100cm³ a glass beaker. Place the beaker on a white piece of paper with **ink mark 'X'** on it. Measure 20cm³ of 2M hydrochloric acid solution **Q** using a 50cm³ measuring cylinder. Put the acid into the glass beaker containing Sodium thiosulphate and immediately start off the stop watch. Determine the time taken for the **marks 'X'** to become invisible/obscured when viewed from above. Repeat the procedure by measuring different volumes of the acid and adding the volume of the distilled water to complete table 1 below.

Table 1

Volume of acid(cm ³)	Volume of water(cm ³)	Volume of sodium thiosulphate (cm ³)	Time taken for mark 'X' to be invisible/obscured(seconds)	Reciprocal of time (sec ⁻¹) $\frac{I}{t}$
20	0	20		
18	2	20		
16	4	20		
14	6	20		
12	8	20		
10	10	20		

- a. Complete the table above (6mks)
- b. Plot a graph of $\frac{I}{t}$ (**rate**) against volume of acid used. (3mks)

t



c. Explain the shape of your graph (1mk)

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.....

d. From the graph determine;

i. Time taken for the cross to be obscured/invisible when the volume of the acid is:

15cm³ (1mk)

8cm³ (1mk)

ii. The volume of the acid used if the time taken for the cross to be obscured/invisible is:

40seconds (1mk)

43 seconds (1mk)

Procedure 2

Using a 10cm³ measuring cylinder, place 10cm³ of solution **Q** into a **250ml** volumetric flask. Add about 200cm³ of distilled water. Shake well. Add more distilled water to top up to the mark. Labeled this solution **T**. Fill the burette with solution **T**. using a pipette and pipette filler, pipette 25cm³ of solution **R** into a conical flask. Add **3 drops** of phenolphthalein and titrate with solution T.

- Record your results in the table
- Repeat the titration two more times and complete the table

Table 2

	I	II	III
Final burette reading(cm ³)			
Initial burette reading(cm ³)			
Volume of solution T (cm ³) added			

(4mks)

a. Determine the :

Average volume of solution **T** used

(1mk)

Moles of the acid in the average volume of solution **T** used.

(2mk)

Concentration of solution **R** in moles per litre.

(2mks)

2.

- a. Put a spatula end-full of **solid A** into a boiling tube and about 10cm³ of distilled water. Shake the mixture well. Divide the resultant solution into **4 equal** portions.

Observation	Inferences
(1/2mk)	(1mk)

- b. To the first portion, add a little calcium hydroxide solid and warm. Test any gases produced using both blue and red litimus paper.

Observation	Inferences
(1mk)	(1mk)

- c. To the second portion, **add 4** drops of hydrogen peroxide solution. Test the gas produced using a glowing splint.

Observation	Inferences
(1mk)	(1mk)

d.

- i. The solution is also suspected to contain sulphite ions. Using Barium nitrate solution and dilute hydrochloric acid solution. **Describe** how you would confirm presence of the sulphite ions.

Observation	Inferences
(1mk)	(1mk)

ii. Carry out the actual test as described in (d) (i) above

Observation	Inferences
(1mk)	(1mk)

3. You are provided with solid **B**, carry out the tests below and record your observation and inferences in the spaces provided.

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

Observation	Inferences
(1mk)	(1mk)

ii. Place the remaining solid in a test-tube. Add about **6cm³** of distilled water and shake the mixture well. Divide the resulting mixture into 4 portions.

Observation	Inferences
(½mk)	(½mk)

a. To the first portion, **add 2** drops of acidified potassium manganite (VII)

Observation	Inferences
(1mk)	(1mk)

- b. To the second portion, **add 3** drops of acidified potassium dichromate (VI) and warm

Observation	Inferences
(1mk)	(1mk)

- c. To the third portion, **add 1g** of solid sodium hydrogen carbonate.

Observation	Inferences
($\frac{1}{2}$ mk)	($\frac{1}{2}$ mk)

- d. To the fourth portion, **add 5 drops** of ethanol followed by few drops of dilute sulphuric (VI) acid and warm

Observation	Inferences
($\frac{1}{2}$ mk)	($\frac{1}{2}$ mk)

Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

451/1 - COMPUTER STUDIES – Paper 1

2½hrs

Instruction to candidates

- a) Write your name and index number in the space provided above.
- b) Sign and write the date of examination in the spaces provided above.
- c) This paper consists of **two** sections **A** and **B**.
- d) Answer **all** the questions in section **A**.
- e) Answer question **16** and any other **three** questions from section **B**.
- f) All answers should be written in the space provided in the question paper.
- g) **This paper consists of 14 printed pages.**
- h) **Do not remove and pages from this booklet.**
- i) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
- j) **Candidates should answer the questions in English.**

For Examiner's Use Only

Section	Question Number	Candidate's Score
A	1-15	
B	16	
	17	
	18	
	19	
	20	
Total Score		

SECTION A (40 MARKS)
ANSWER ALL QUESTIONS IN THIS SECTION

1. Name the two common types of system units and differentiate them. (2 mks)

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2. Define the following characteristics of a computer system. (2 mks)

- (i) Versatile
- (ii) Reliable

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3. State any **three** types of computer programme documentation (3mks)

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4. Name any **three** effects of ICT on health (3mks)

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5. List **one** function of a bridge in computer network (1mk)

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6. a) Convert 1111000110111_2 to its octal equivalent (1mk)

(b) Convert 512.25_8 to its base 10 equivalent

(2mks)

7. With an aid of a diagram, differentiate between selection control structure and iteration control structure. (4mks)

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8. (a) Auki company is in the process of computerizing its services. List four measures that should be put into consideration to protect the users in their computerized areas. (2mks)

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(b) Give two reasons why powder and liquid extinguishers are not recommended unlike gaseous extinguishers. (2mks)

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9. Without proper marketing, a business cannot survive in a competitive environment hence computers are being used in a number of ways to enhance marketing. List any three ways of ensuring this is effected. (3mks)

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10. Describe the following terms as used in computers. (3mks)

(i) Tab Key

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Spacebar

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(ii) Clicking



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.....
11. Control unit is an essential component of the CPU. Describe the functions of the control unit.(2 mks)

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12. (a) Differentiate between buffers and Registers (2 mks)

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(b) Speech recognition devices are used to capture natural sound and convert the input into digital form. State two problems related to speech recognition devices. (2mks)

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13. Define Solid-state storage and give two examples. (2 mks)

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14. (a) Explain how a pixel affects the resolution of a monitor. (1mark)

(b) List two types of computer output on microform (COM).

(2mks)

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15. Advantages of using ATM cards

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SECTION B (60 MARKS)

ANSWER QUESTION 16 AND ANY OTHER THREE QUESTIONS IN THIS SECTION

16. (a) Define the following terms as used in programming

(2 mks)

i) Source code

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ii) Object code

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(b) Differentiate between Assembler and Interpreter as used in programming.

(2mks)

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.....

(c) Identify the type of programming language used in the codes below;

(1mk)

(i) **1101 1101** **1011 1011**
 1110 0001 **1100 0111**

 0010 1110 **1011 0011**

.....
.....

(ii) **LDA A, 20**
 ADD A, 10
 STO B, A
 NOP

.....
.....

(d) Draw a program flowchart that would accept three numbers, find their sum. If the sum is greater than 200, it adds 30 to the sum, otherwise subtract 20 from the sum. The program should then display the sum. (5mks)

(i) Draw a flow chart for the above pseudo code.

(5mks)

17. (a) In order to generate information from data items, a set of processing activities have to be performed on the data items in a specific sequence depending on the desired result. Draw a well labeled diagram to illustrate data processing cycle. (2mks)

(b) A data entry clerk experiences some common errors when typing. Most of the time, she finds that:

- (i) After every calculation, the result is less than the expected number of digits required e.g.345.7896543 the result is given as 345.789.
- (ii) Different characters are typed wrongly, for example instead of typing 12873457 she types 128734S7.

Identify the two types of errors commonly experienced by the clerk during data processing in (i) and (ii) above respectively. (2mks)

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(c) State two ways a user can ensure data accuracy is maintained during data processing. (2mks)

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(d)(i) State three advantages of a computerized filing system as used in data processing. (3mks)

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(ii) State two disadvantages of a serial file organization method in computing.(2marks)

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(iii) Differentiate between distributed processing and interactive processing modes; stating one application area of each. (4marks)

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18. (a) Write the following acronyms in full as used in operating systems.

(i) GUI (½ mark)

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(ii) WIMP (½ mark)

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(b) State **three** factors considered when choosing an operating system for use in a computer. (3 mks)

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(c) An operating system manages and organizes a computer system using the following structures: File, Folder and Drive. State the meaning of the underlined items respectively. (3mks)



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(d) (i) Differentiate between error handling and interrupt handling as used in operating systems. (2mks)

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(ii) State **three** reasons why most network technicians prefer using command line operating systems to configure networking equipment. (3mks)

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(e) Disk management is one important aspect in secondary storage in computer systems. Explain the following tools used by an operating system to manage disks in the computer. (3mks)

(i) Formatting

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(ii) Partitioning

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(iii) Defragmentation



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19. (a) Define the following terms as used in networking. (3mks)
(i) Network

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(i) Intranet

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.....

(ii) Browser

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(b) The World Health Organization is global entity that deals with health issues around the world. It has computer networks linking its regional and continental offices using internet. State **two** importance of the internet to such organization. (2mks)

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(c) Mr. Zuma, the Principal of a school wishes his school to have an internet connection in a bid to improve its service delivery. Mention **four** internet connectivity requirements that must be present to enable the connection. (2mks)

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(d) Explain the following as used in e-mail:

(i) Inbox (1mk)



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.....

(ii) Drafts (1mk)

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(e) (i) Failure of information systems is a major concern in the security of data in computing systems. State **two** causes of such failure. (2mks)

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(ii) Explain the following computer crimes.

(i) Fraud (1mk)

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(ii) Industrial espionage (1mk)

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(f) Excluding passwords, state **two** other security control measures used to guard against unauthorized access to computers in a network. (2mks)

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20. (a) Convert the 1010.011_2 to decimal equivalent.

(3mks)

(b) Perform the following number system conversions.

(3mks)

(i) 342.25_8 to binary.

(ii) 503_{10} to hexadecimal

(3mks)

(c) (i) Compute the binary arithmetic given below:

(3mks)

$$10111 + 10001 + 101$$

- (ii) Using 8-bit notation, perform the **twos** complement of $25_{10} - 15_{10}$, leaving your answer in binary. (4mks)

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

451/2

COMPUTER STUDIES

PAPER 2

(PRACTICAL)

TIME: 2½ HRS.

INSTRUCTIONS TO CANDIDATES:

- (a) Indicate your name and index number at the top right hand corner of each printout.
- (b) Write your name and index number on the CD/Removable storage medium provided.
- (c) Write the name and version of the software 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 your CD/Removable storage medium.
- (h) Make a printout of the answers on the answer sheet.
- (i) Arrange your printouts and tie/staple them together.
- (j) Hand in all the printouts 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.**
- (m) **Candidates should answer the questions in English.**

For Examiners’ Use Only

Question	Maximum Score	Candidate’s Score
1		
2		
Total Score		

1. Mobilis is a company that engages in the sales of the following Mobile service providers: Faiba, Gateway, Vodafone and SAF. The company uses sales representatives who operate at various regions in Nairobi town. Each sales representative presents monthly sales to the manager (Values are in Ksh).

	A	B	C	D	E	F
1.	Mobile _ Accessories Sales LTD					
2.		Product type				
3.	Sales Rep.	Faiba	Gateway	Vodafone	SAF	Total Sales
4.	Kipkulei	24000	37500	39500	49500	
5.	Tom	15000	26500	21500	25500	
6.	Sharon	5500	14800	3500	16500	
7.	Oscar	7000	15500	14500	64500	
8.	Linda	11000	69000	2200	64500	
9.	Danelaw	33500	12000	14500	23500	
10.	Muriithi	15500	80000	17200	23500	

- (a) Using spreadsheet package,
- Enter the information given in the table above into a worksheet. Save workbook as **MOBILISREPS** and rename sheet 1 as **Sales**. (20 marks)
 - Validate all the cells in the Product Type columns to allow entry of numeric data from 0 to 80,000 **only**. A message, Invalid data!: should be displayed whenever a cell is typed with non compliant data. (3 marks)
- (b) Using formulae, determine the;
- Total sales for each Sales representative (2 marks)
 - Product type Total Sales for each provider. (2 marks)
- (c) Each sales person earns Bonus points for the sales of each product type based on the following criteria.
- 1 point for every sh. 50 for Faiba,
 - 2 points for every sh. 60 for Gateway,
 - 3 point for every sh. 50 for Vodafone,
 - 2 point for every sh. 60 for SAF.

Insert a column **Bonus Points** and compute the points of each sales person. (5 marks)

- (d) Insert a blank column **Awards** and based on the Bonus points earned by each sales representative, use a function to display the remarks on Awards as follows: (5 marks)

<u>Total Sales</u>	<u>Awards</u>
2,500 and above	Cash
More than 1,000 and less than 2,500	Voucher
1,000 and below	try again

- (e) Format the figures in worksheet as follows: (3 marks)
- Title and subtitle:
 - ✓ Double underline
 - ✓ Font type – Algerian
 - ✓ Font size
- f) Rotate, all the Product Type heading labels in the worksheet to -90°. (1 mark)
- g) Generate a column chart to represent the Total sales for each sales representative. Label your chart accordingly and place it in a new worksheet renamed as CHART. (7marks)
- h) Print Sales and CHART. (2marks)

2. **HIGH SEASONS** is a holiday resort firm. It has several branches all over the world. In order to keep track of its employees, a database to organize employee information is required.

(a) Create a database file and save it as **SEASONS** in the removable storage provided. (2 marks)

(b) (i) Create a table containing the following fields: (3 marks)

Field Name	Field Type
Employee No.	Auto Number
Date of Birth	Date/Time
Grade	Text

(ii) Make the field Employee No. the primary key and save the table as **EMPLOYEES**. (3 marks)

(c) (i) Create a form based on the **EMPLOYEES** table and save it as **EMPLOYEES FORM**. (4 marks)

(ii) Use the form to enter the records below: (5 marks)

Employee No.	Date of Birth	Grade
1	5/15/1960	G
2	4/28/1978	H
3	10/30/1972	R
4	12/5/1975	H

5	2/28/1974	G
6	1/3/1970	G
7	11/24/1956	H
8	3/10/1984	G
9	4/4/1956	S
10	8/11/1964	R

(d) Modify the EMPLOYEES table by adding two new fields: (2 marks)

Field Name	Field Type
Salary (Shs)	Currency
Address	Text

(e) (i) Create another table containing the following fields: (2 marks)

Field Name	Field Type
House ID	Auto Number
Number of Rooms	Number
Location	Text
Rent	Currency

(ii) Make the field House ID the primary key and save the table as HOUSES.(2 marks)

(f) Create a relationship the tables and enforce referential integrity. (6 marks)

(g) (i) Create a query and save it as EMPLOYEES QUERY based on the EMPLOYEES table that would display all the employee's in Grade H, R and their date of birth. (2 marks)

(ii) Sort the records in the EMPLOYEES QUERY in alphabetical of Grade field. (3 marks)

(h) (i) Create a columnar report with portrait orientation from the EMPLOYEES QUERY. Save the report as EMPLOYEES REPORT. (4 marks)

(ii) Enter a function to compute the salaries grand total displayed in the report. (5 marks)

(iii) Insert a header EMPLOYEES IN GRADE H AND R in the report having font size 20 pts to the left of the page. (3 marks)

(i) Print the EMPLOYEES Table, EMPLOYEES FORM, EMPLOYEES QUERY and EMPLOYEES REPORT. (4 marks)

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

**313/1 CHRISTIAN RELIGIOUS EDUCATION
PAPER 1**

Time: 2 ½ hours

INSTRUCTIONS TO CANDIDATE

- a. Write your name and index number in the spaces provided
- b. Sign and the date of examination in the spaces provided
- c. This paper consists of six questions
- d. Answer any five questions in the spaces provided at the end
- e. Each question carries 20 marks

FOR EXAMINER’S USE ONLY

QUESTION	1	2	3	4	5	6	TOTAL SCORE
CANDIDATES SCORE							

1. a. Explain how learning of Christian religious education in secondary schools promote the goal of national development. 7mks
- b. State six similarities found in both Biblical and traditional views on creation 6mks
- c. Identify the consequences of sin from the story of the fall of human beings in Genesis chapter three 7mks
2. a. Describe the covenant ceremony between God and Abraham in Genesis 15:1 – 19 7mks
- b. Explain the importance of God’s covenant with Abraham 8mks
- c. Identify five examples of covenants made in Kenya today 5mks
3. a. Give reasons why Samuel was totally against kingship in Israel 6mks
- b. State seven ways used by King David to promote the worship of God in Israel 7mks
- c. What lessons would modern political leaders learn from King Solomon 6mks
4. a. Describe the characteristics of false prophets in the Old testament 6mks
- b. State Amos teachings about hypocritical religion in Israel 8mks
- c. Give ways in which Christians practice hypocritical religion 6mks
5. a. Explain four symbolic acts related to hope and restoration as demonstrated by prophet Jeremiah 8mks
- b. Give seven ways in which Jeremiah suffered while carrying out his prophetic work in Judah 7mks
- c. State the relevance of prophet Jeremiah’s suffering to Christians today 5mks
6. a. Give reasons why observance of blood kinship is important in traditional African communities 6mks
- b. Identify seven occasions when prayers are offered in traditional African communities 7mks
- c. In which ways do traditional African communities seek reconciliation with God 7mks

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

313/2 CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

Time: 2 ½ hours

INSTRUCTIONS TO CANDIDATE

- f. Write your name and index number in the spaces provided
- g. Sign and write the date of examination in the spaces provided
- h. This paper consists of six questions
- i. Answer any five questions in the spaces provided at the end
- j. Each question carries 20 marks

FOR EXAMINER’S USE ONLY

QUESTION	1	2	3	4	5	6	TOTAL SCORE
CANDIDATES SCORE							

1. a) Describe the visit of the angel of the lord to the shepherds on the night Jesus was born.(Luke 2:8-15)
(8mks)
- b) Outline the differences between the work of John the Baptist and that of Jesus Christ.(6mks)
- c) State six ways in which the church in Kenya assists families to cope with the challenges facing them today.(6mks)
2. a. Describe the temptations of Jesus in the wilderness before he began his public ministry (8mks)
- b) What lessons do Christians learn from the temptations of Jesus? (5mks)
- c) Identify problems faced by new converts in the church today (7mks)
3. a). Outline the events that took place on the mount of olives before the arrest of Jesus (8mks)
- b) Give reasons why Peter denied Jesus. (7mks)
- c) Why is the death of Jesus important to Christians (5mks)
4. a. Identify eight characteristics of love as taught by St. Paul in 1st Corinthians 13. (8mks)
- b) How was the life of peter transformed on the day of Pentecost? (7mks)
- c) State five factors that hinder effective cooperation among Christians in Kenya today. (5mks)
5. a. Outline eight Christian teachings on work. (8mks).
- b) State the role of professional ethics in a workplace.(6mks)
- c) Identify six ways in which the church is helping to reduce the rate of unemployment in Kenya today.(6mks)
6. a).Discuss the role of a Christian during national elections.(8mks)
- b) Explain seven reasons why Christians oppose the use of contraceptives. (7mks)
- c) Give five ways in which Christians use the print media to spread the gospel. (5mks)

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

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

INSTRUCTIONS TO CANDIDATES

- a) Write your name, index number and admission number in the spaces provided above.
- b) Sign and write the date of examination in the spaces provided above
- c) Answer **all** the questions in this paper
- d) All your answers must be written in the spaces provided in the question paper
- e) This paper consists of 7 printed pages
- f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

For Examiner’s Use Only

Question	Maximum Score	Candidate’s Score
	20	
	10	
	30	
Total Score	60	

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

Fill in each blank space in the following passage with the most appropriate word.

In (1).....to pass examinations well, one needs to
(2).....a good foundation from the beginning. Revising (3)..... for
the examinations requires you to actually study and (4).....your facts rather than
memorizing them. (5).....of the main problems that (6).....students face
is anxiety. A little bit of anxiety before examinations is okay but too much
(7).....detrimental. Excess anxiety may come from
(8).....understanding the crucial points in a topic before moving
(9)..... to the next. When students simply gloss (10).....facts, they
fail to understand them and therefore they get mixed up or confused before examinations.

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

a) **Read the poem below and answer the questions that follow.**

When to the sessions of sweet silent thought
I summon up remembrance of things past,
I sigh the lack of many a thing I sought
And with the old woes new wail my dear time's waste
Then can I drown an eye, unused to flow,
For previous friends hid in death's dateless night,
And weep a fresh love's long since cancelled woe,
And moan the expense of many a vanished sight.
Then can I grieve at grievances foregone,
And heavily from woe to woe tell o'er.
The sad account of foregone-bemoaned moan,
Which I now pay as if not paid before .
But if the while I think of thee, dear friend,
All losses are restored and sorrows end.

William Shakespeare

Questions

(i) Describe the rhyme scheme of the poem above (2 marks)

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(ii) Identify the most dominant sound devices in the poem (2 marks)

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b) Read the oral literature item below and answer the questions that follow.

Slipperiness knows no king.

(i) Identify an element of musicality contained in the proverb above (2 marks)

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(ii) Identify two occasions in which the above proverb can be used (4marks)

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c) Identify the odd one out in each of the following sets by underlining according to the pronunciation of bold part of the words. (4 marks)

(i) Enough **staff** dough **graph**

(ii) Deposit **rapport** report debutant

(iii) **H**our **h**onour **h**eir **h**eifer

(iv) Prison reason person season

d) For each of the following words, provide a word pronounced the same. (3 marks)

(i) What

(ii) Quire

(iii) Come

e) You are having a group discussion with your colleagues on the set text “**Blossoms of the Savanna.**” One of your group mates is **contributing to the discussion** but you are eager to chip in with something. State any three cues that would tell you that it is your turn to make a contribution. (3 marks)

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f) **Explain** how you would greet a friend you meet on the road while **taking a walk** (3 marks)

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g) **Read the following dialogue between Portia and the Principal then answer the questions that follow.**



Principal: Welcome Portia, please have a seat.

Portia: (After sitting down) Sir, why did you call me?

Principal: I would like us to have a little chat about.....

Portia: I have not done anything wrong; you can even ask Jedidiah, the class prefect I was with her the whole day yesterday.

Principal: Actually, the reason I called you is because...

Portia: Speak louder. I can't hear you.

Principal : (In a louder voice). The reason why I sent for you is because I have just received news from...

Portia: (Shouting). Jacky! I knew that fool could not be trusted with a secret. Okay, it's true that Elijah and I sneaked out of school yesterday but we were hungry, really hungry. All we did was buy a loaf of bread and then came back to school.

Principal: Portia, I wish you could listen to me. The reason why I called you here is because I have received news that you have won an award in the creative writing contest that you entered last year. I have a cheque here for you. However, you have raised a matter that I would love to attend to without further delay. Please go and call Elijah. By the time you get back I will have decided on the best punishment for you two.

(i) How does the principal establish rapport with the student? (2 marks)

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(ii) Prove that Portia is a poor listener. (2 marks)

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(iii) What evidence is there in the dialogue to suggest that Portia demonstrates lack of etiquette in her speech? (3marks)

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Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

ENGLISH

101/2

Paper 2

(Comprehension, Literary appreciation and Grammar)

Time; 2½ Hrs

Instructions to Candidates

- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) Answer all the questions in this paper.
- (d) All your answers must be written in the spaces provided in the question paper.
- (e) This paper consists of 9 printed pages
- (f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (g) Candidates must answer the questions in English

For Examiner's Use Only.

Question	Maximum Score	Candidate's Score
1	20	
2	25	
3	20	
4	15	
Total Score	80	

1. **COMPREHENSION** (20MKS)

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

The question is at least as old as Socrates: If we know what the right thing to do is, why do we not do it? It is an especially acute question when applied to global warming. The science showing that carbon dioxide emissions are already changing the planet's climate, and are likely to have severe effects (melting ice caps, sea-level rise, and species extinction), is compelling and now barely disputed. Almost 90% of Europeans say they recognize climate change as a major issue, and 75% identify fossil fuel emissions as a major cause.

And yet, as was widely discussed at a conference of environmentalists, geologists and writers in May 2006 in Ankelohe, Germany, public understanding has not translated into even the simplest of public actions. Less than 1% of Britons, for example, have switched their home electricity to renewable sources, even though it requires little more than a phone call to one's existing provider. Proportions on the continent are slightly higher, but there is clearly no rush to go green or — shudder — stop driving cars.

Why such a disconnect between information and action? Part of the problem is that environmental advocates emit mixed messages. In mid-May 2006, Britain's Guardian published a front-page story showing that five companies in Britain produce more CO₂ pollution in a year than all the country's motorists combined. That is a strong argument for targeting industries, but the average reader could hardly be blamed for thinking, "Why should I bother to cut down my driving?"

Similarly, not enough thought has been devoted to the best role for government. Climate change is too vast a problem for individuals to solve alone, and some big businesses have an incentive not to solve it. That leaves government to take the lead, which is tricky, because over-reliance on government can allow individuals to fob off their own responsibilities. What is worse, government power seems to tickle autocratic fantasies. In my experience, environmentalists spend far too much energy advocating hard-line government 'solutions' that do not stand a chance of being enacted. Sure, it might be good for the planet if governments banned the use of sports-utility vehicles or, for that matter, of all fossil fuels. Yet not only is it hard to sell outright prohibitions to voters, but the sad truth is that governments have a woeful record in even the mildest interventions. One of the most significant innovations in the last decade has been Europe's carbon-emission trading scheme: some 12 000 companies, responsible for more than half of the EU's emissions, have been assigned quotas. Companies with unused allowances can sell them; the higher the price, the greater the incentive for firms to cut their use of fossil fuels. The system seemed to work for about a year — but now it turns out that Europe's governments allocated far too many credits, which will likely hinder the program's effectiveness for years.

Perhaps the real reason that well-intentioned consumers do not change is that they do not see any benefit. Climate change may be a frightening, irreversible calamity, but its worst effects will not be felt next week or next year. The planet looks the same regardless of whether we use

environmentally friendly technology or we do not care how much CO₂ we emit. But sure as the sun rises and sets every day, if we do not cut down on carbon emissions, then we may not have a planet to hand over to the next generation.

(Adapted from Times, June 5,

2006)

a) Provide an appropriate title for the above passage (2 marks)

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b) In note form, what are the effects of global warming. (2 marks)

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c) What, according to the passage, is the main cause of global warming? (3 marks)

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d) How does Britain encourage people to use renewable electricity? (3 marks)

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e) Paraphrase the following sentence: (2 marks)

That is a strong argument for targeting industries, but the average reader could hardly be blamed for thinking, 'Why should I bother to cut down my driving?'

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f) Rewrite the following sentence into a statement. (2 marks)

Why should I bother to cut down my driving ?

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g) What message does the writer communicate in this passage? (2 marks)

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h) Explain the meaning of the following words and expression as used in the passage. (4 marks)

(i) fob off

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(ii) incentive

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(iii) Calamity

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(iv) emission

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2. ADOLL'S HOUSE (25 MARKS)

Read the following excerpt from Henrik Ibsen's A Doll's House, and answer the questions that follow.

Rank: Is there anything wrong?

Nora: No, no, not in the least. It is only something it is my new dress—

Rank: What? Your new dress is lying there.

Nora: Oh, yes, that one; but this is another. I ordered it. Torvald mustn't know about it—

Rank: Oho! Then that was the great secret.

Nora: Of course. Just going to him; he is sitting in the inner room, Keep him as long as—

Rank: Make your kind easy; I won't let him escape. (Goes into HELMER'S room)

Nora: (to the MAID) and he is standing waiting in the kitchen?

Maid: Ye, he came up the back stairs.

Nora: But didn't you tell him no one was in?

Maid: Yes, but It was no good.

Nora: He won't go away?

Maid: No; he say she won't until he has seen you, ma'am.

Nora: Well, let him come in—but quietly Hellen, you mustn't say anything about it to anyone. It is a surprise for my husband.

Maid: Yes, ma'am, I quite understand. (Exit)

Nora: This dreadful thing is going to happen! It will happen inspite of me! No, no, no, It can't happen—its hasn't happen! (She bolts the door of HELMER' S room. The MAID opens the hall door for KROGSTAD and shuts it after him. He is wearing a fur coat, high Boots and fur cap.)

Nora: (advancing towards him) Speak low—my husband is at home.

Krogstad: No matter about that.

Nora: What do you want of me?

Krogstad: An explanation of something.

Nora: Make haste then. What is it?

Krogstad: You know, I suppose, that I have got my dismissal.

Nora: I couldn't prevent it, Mr. Krogstad I fought as hard as I could on your side, but It was no good.

Krogstad: Does your husband love you so little, then? He knows what I can expose you to, and yet he ventures —

Nora: How can you suppose that he has any knowledge of the sort?

Questions:

(a) Place the excerpt in its immediate context. (4 marks)

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(b) What is it that Nora claims to be another that she ordered? What does it reveal about her character trait? (4 marks)

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(c) This dreadful thing is going to happen! What is it that Nora fears will happen? (5 marks)

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(d) What character trait of Nora is brought out in the excerpt? (4 marks)

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(e) What is the presentation of Rank in the excerpt? (2 marks)

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(f) Identify and explain two aspects of style used in the above excerpt (2mks)



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(g) What major theme comes out in the excerpt? (2 marks)

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(h) What is the meaning of the following words as used in the excerpt? (2 marks)

(i) Dreadful

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(ii) Make your mind easy

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3. ORAL NARRATIVE (20 MARKS)

THE MAN WHO WAS PREGNANT IN THE KNEE
(Place of Origin: Kikuyu Collected by: K.P. Ndendero)

Along time ago, there was a man who was pregnant in the knee. People of his neighbourhood often told him that his knee was growing big. As time went on, the knee



grew bigger and bigger . A time came when it was discovered that he would give birth. He went into a house and gave birth to three children. This man then took his three children somewhere into a cave. He gave them names, calling one girl Wanjiru.

After locking the cave from the outside, the man went to look for food so that he could feed the children. On coming back to the cave with the food, he usually sang a song so that the children could open the door for him to enter the cave. He had ordered them to close the entrance from inside, and not to open to anybody else other than himself.

He sang:

*Knee, Knee, Knee that has made me rich,
Gave birth for me to three children
Who I named Nyamathiriti, Nyamathangania, Nyamatuathanga
Njiru open for me I give you food
Which you know and which you don't know.*

Upon hearing that song , the children opened the door for him since they had recognised his voice. He entered the cave and gave them food to eat.

This routine was repeated every time the man went to look for food to feed his children. After quite some time had passed, the father of the children went to look for food as usual. He first locked the children from outside and they locked from the inside. Coming back to the cave with the food the man sang his usual song.

But Irimu had been eavesdropping, and heard the song the man sang. He therefore decided to eat those children in the cave when their father was absent. So when the father of the children, after some days, went again to look for food, Irimu approached the door to the cave and sang with a hoarse voice.

*Knee, knee, that has made me poor, has made me rich,
Gave birth for me to three children
Who I named Nyamathiriti, Nyamathangania , Maturiathanga,
Njiru open for me , I give you food
Which you know and which you dont know.*

After listening to that voice, the children knew that the voice was not their father`s. Wanjiru then told the ogre Go away you fool; you are not my father. The ogre went away realizing that the children would not open the door, since they had recognized that his voice was not that of their father.

After the ogre had gone away the father of the children came back with food for the children to eat. He then sang his usual song and the children recognized his voice and opened for him.

Irimu then went to a witchdoctor and said there are some children I want to eat, how will I know how to get them? The witch doctor answered, Go to the path of ants; lay your tongue

there and let them bite you. Get bitten, bitten and bitten. When the tongue oozes blood it will then be able to sing like the father of those children.

Irimu then went to do as directed. He laid his tongue on the path of ants. But when he was bitten by some ants, he rose up quickly and exclaimed, Phew, phew it hurts. He went back to the witchdoctor and lied that he had really been bitten by the ants.

He then proceeded to the cave where the children were and sang with a voice that was still hoarse.

After listening to that voice the children realized that it was not their fathers, Wanjiru told him, Go away you fool, you are not our father.

Irimu had not softened his voice properly as he had been directed by the witchdoctor because he was afraid of pain. He went back to consult the witchdoctor again. The witchdoctor firmly directed him and said, Go and be bitten properly by the ants. So he went to the path of the ants and laid his tongue there. He was bitten, bitten and bitten till his tongue oozed blood and softened.

Now the father of the children sensing danger might befall his children, had advised and warned them that When you'll be taken from here while I am absent, take with you this castor oil seeds. They are kept in a pot. So when you will be removed from here, you drop the castor oil seeds, as you go, and I will follow you up to where you have been taken and I will rescue you. Have heard that Wanjiru? Yes, replied Wanjiru.

After some days had gone by, the father of the children went again to look for something to eat. The ogre having been bitten properly by the ants; came back to the cave. He softened his mouth and then sang that song;

Knee, knee that made me poor, has made me rich.

Gave birth for me to three children

Who I named Nyamathiriti, Nyamathangania, Maturiathanga.

Njiru , open for me , I give you food

Which you know and which you dont know.

Wanjiru after listening to that voice and thinking it's her father who opened the door. Irimu pushed the door open and entered the cave. He rudely ordered the children. Out we go; But Wanjiru at that moment remembered the castor oil seeds pot. She snatched it before she was forcibly pushed outside. Wanjiru then started dropping the seeds from the door steps. She went on dropping and dropping, until the house to which they were taken. The father of those children came back to the cave with food for children to eat. But when he sang his usual song, the door was not opened. But at that moment he saw the seeds at the doorstep of the cave. He got alarmed and immediately knew that his children had been taken away. He followed the castor oil seeds until he reached a house where the seeds ended. Pretending to be a messenger sent on a mission he was welcomed into the house. He found that his children had been brought there by Irimu. But after staying there for some days, he organized a successful plan and stole his children back. They ran away and went back home to their cave. My story comes to an end.

Questions

(a) Place the above oral narrative in its correct sub genre. (2marks)

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(b) Identify and illustrate one socio economic activity of the society depicted in this oral narrative (2marks)

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(c) How has the oral artist portrayed the character of the father? (4marks)

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(d) The witchdoctor’s advice to Irimu can be summed up in a general proverb.

(i) Write down one such proverb from any community. (1mark)

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.....

(ii) Explain its relevance to the witchdoctor’s advice. (2marks)

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(e) What feature in this story shows that it is a traditional oral narrative? (4marks)

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(f) Imagine you are telling this story to a group of young children. How would you make the story more interesting? (4marks)

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(h) Which method do you think would be most suitable when collecting this narrative from the field? (1mark)

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4. GRAMMAR.

(a) **Rewrite the following sentences according to the instructions given after each. Do not alter the meaning.** (2 marks)

(i) I have never seen a more beautiful girl. (Re-write beginning: This is.....)

.....

.....

(ii) Mango is usually punctual. (Rewrite using seldom).

.....

.....

.....
.....
(b) Complete the following sentences by choosing the appropriate expressions to fill the gaps.

(2marks)

- (i) Although Nduati is a great friend of mine. I him on a few important issues.(differ to , differ with)
- (ii) As good citizens, we must all pay our taxes..... the policy. (in accordance to, in accordance with).

(c) Fill in the blanks spaces with the correct forms of the words given in bracket. (4 marks)

- (i) She may consider helping the orphan on (human) grounds.
- (ii) Ndeko still wants more food even after clearing a whole plateful of Ugali. His appetite is simply (Satisfy).
- (iii) His can only be compared to that of his great grandfather. (Mediocre)
- (iv) After the inferno, the Roche's had to buy new (furnish) for their house.

(d) Use the correct phrasal verbs in places of the underlined words and phrases. Use the verbs in brackets. (3 marks)

- (i) It is quite evident from the boy's photographs that he resembled his mother (Take).

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.....
- (ii) They all waited anxiously for the event as it was a time they met their friends. (Look)
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.....

(iii) It is not easy to declare a complete loss over a debt of more than one thousand shillings.
(write)

.....
.....

(e) **Add an appropriate question tag to each of the following sentences.** (3marks)

(i) They aren't serious

.....

(ii) They won't shut up

.....

(iii) Let us go.

.....

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

ENGLISH

101/2

Paper 2

(Comprehension, Literary appreciation and Grammar)

Time; 2½ Hrs

Instructions to Candidates

- (i) Write your name and index number in the spaces provided above.
- (j) Sign and write the date of examination in the spaces provided above.
- (k) Answer all the questions in this paper.
- (l) All your answers must be written in the spaces provided in the question paper.
- (m) This paper consists of 9 printed pages
- (n) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (o) Candidates must answer the questions in English

For Examiner’s Use Only.

Question	Maximum Score	Candidate’s Score
1	20	
2	25	
3	20	
4	15	
Total Score	80	

1. COMPREHENSION (20MKS)

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

The question is at least as old as Socrates: If we know what the right thing to do is, why do we not do it? It is an especially acute question when applied to global warming. The science showing that carbon dioxide emissions are already changing the planet's climate, and are likely to have severe effects (melting ice caps, sea-level rise, and species extinction), is compelling and now barely disputed. Almost 90% of Europeans say they recognize climate change as a major issue, and 75% identify fossil fuel emissions as a major cause.

And yet, as was widely discussed at a conference of environmentalists, geologists and writers in May 2006 in Ankelohe, Germany, public understanding has not translated into even the simplest of public actions. Less than 1% of Britons, for example, have switched their home electricity to renewable sources, even though it requires little more than a phone call to one's existing provider. Proportions on the continent are slightly higher, but there is clearly no rush to go green or — shudder — stop driving cars.

Why such a disconnect between information and action? Part of the problem is that environmental advocates emit mixed messages. In mid-May 2006, Britain's Guardian published a front-page story showing that five companies in Britain produce more CO₂ pollution in a year than all the country's motorists combined. That is a strong argument for targeting industries, but the average reader could hardly be blamed for thinking, "Why should I bother to cut down my driving?"

Similarly, not enough thought has been devoted to the best role for government. Climate change is too vast a problem for individuals to solve alone, and some big businesses have an incentive not to solve it. That leaves government to take the lead, which is tricky, because over-reliance on government can allow individuals to fob off their own responsibilities. What is worse, government power seems to tickle autocratic fantasies. In my experience, environmentalists spend far too much energy advocating hard-line government 'solutions' that do not stand a chance of being enacted. Sure, it might be good for the planet if governments banned the use of sports-utility vehicles or, for that matter, of all fossil fuels. Yet not only is it hard to sell outright prohibitions to voters, but the sad truth is that governments have a woeful record in even the mildest interventions. One of the most significant innovations in the last decade has been Europe's carbon-emission trading scheme: some 12 000 companies, responsible for more than half of the EU's emissions, have been assigned quotas. Companies with unused allowances can sell them; the higher the price, the greater the incentive for firms to cut their use of fossil fuels. The system seemed to work for about a year — but now it turns out that Europe's governments allocated far too many credits, which will likely hinder the program's effectiveness for years.

Perhaps the real reason that well-intentioned consumers do not change is that they do not see any benefit. Climate change may be a frightening, irreversible calamity, but its worst effects will not be felt next week or next year. The planet looks the same regardless of whether we use

environmentally friendly technology or we do not care how much CO₂ we emit. But sure as the sun rises and sets every day, if we do not cut down on carbon emissions, then we may not have a planet to hand over to the next generation.

(Adapted from Times, June 5,

2006)

i) Provide an appropriate title for the above passage (2 marks)

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j) In note form, what are the effects of global warming. (2 marks)

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k) What, according to the passage, is the main cause of global warming? (3 marks)

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l) How does Britain encourage people to use renewable electricity? (3 marks)

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m) Paraphrase the following sentence: (2 marks)

That is a strong argument for targeting industries, but the average reader could hardly be blamed for thinking, 'Why should I bother to cut down my driving?'

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n) Rewrite the following sentence into a statement. (2 marks)

Why should I bother to cut down my driving ?

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o) What message does the writer communicate in this passage? (2 marks)

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p) Explain the meaning of the following words and expression as used in the passage. (4 marks)

(v) fob off

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(vi) incentive

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(vii) Calamity

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(viii) emission

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2. BLOSSOMS (25 MARKS)

Read the following excerpt from Henrik Ibsen's A Doll's House, and answer the questions that follow.

"No one can accuse us of laziness, cut in Taiyo happily, her spirit buoyed up by her aunt's praise, "And yeiyo here has been our ever resourceful teacher. "That is as it should be," yeiyo botorr enthused. "We were taught by our mothers who were also taught by their mothers, and so on and on back to the time we ascended Kerio valley."

"I have no problem acquiring more knowledge, skills and even specialized experience," Resian said in a defiant tone that had Taiyo squirming with apprehensions "I have no problem at all and I thank yeiyo for her untiring effort in teaching us. But my question is: do we go to all these lengths to please some lazy bunch of busybodies who do nothing but lounge about in the living rooms, yawning and stretching, waiting for tasty food to land on the table before them? No, I refuse to be taught to solely please male counterparts. They can also cook, and they can, and should also learn to please us females. Period!"

Yeiyo botorr was shocked. Mama Milanoi was dumbfounded and was at a complete loss for words. Taiyo stared at her sister in consternation.

"Resian-sake-!" pleaded Taiyo. "Please give respect to yeiyo botorr and stop your uncalled for tirade."

"But surely, Resian," her mother said, regaining her composure. "Have you no respect for your father who is also male? What has gotten into your child, lately?"

Turning to the girls' aunt, she added, "enkaini, yeiyo botorr, this child was not like this before we came here. I don't know what has gone wrong." "Nothing is wrong with me," Resian retorted furiously. And pointing at the living room with her finger, she fiercely charged, "I have no quarrel with my father, for whom I have tremendous respect. It is the likes of Olarinkoi I am mad at and all those other males who come here ordering us to do that or the other for them, simply because they are males. When women visit us, they give us the leeway to respond to their

requests. But as we burn our fingers here, Mr. Olarinkoi is dozing off comfortably in our living room waiting for his lunch and possibly a little angry and impatient with us for delaying it." "It is enough," cried yeiyo botorr viciously. She instantly abandoned the peeling of potatoes and threw the knife into the pail that held the peeled potatoes. Supporting herself by holding onto a nearby wall, she painfully lifted her large, heavy body. "My enkaini," I agree with you that something is wrong with our child. And I think I know what ails her. Come along and I will tell you what I think ails her."

Questions

(a) Briefly explain what had happened just before the events in this excerpt. (3 marks)

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(b) From the events in this excerpt, describe Resian's attitude towards the teachings of the Maa tradition. (3 marks)

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(c) Would you say that Resian hates men in general? Give reasons for your answer. (3 marks)

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(d) From information given earlier in the novel, suggest a possible reason why Resian dislikes Olarinkoi. (2 marks)

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(e) Identify and describe two themes evident in this excerpt. (4 marks)

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(f) "Nothing is wrong with me," Resian retorted furiously. (Rewrite in reported speech). (1 mark)

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(g) Describe two events later in the novel where Olarinkoi displays two contrasting aspects of behaviour in his relationship with members of Ole Kaelo's family. 4mks

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(h) Supporting herself by holding onto a nearby wall, she painfully lifted her large' heavy body. (Rewrite the sentence beginning: She 2mks



- (i) "Come along with me and I will tell you what I think ails her" Which explanation does yeiyo botorr give for Resian's defiant behaviour? (3 marks)

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3. ORAL NARRATIVE (20 MARKS)

THE MAN WHO WAS PREGNANT IN THE KNEE
(Place of Origin: Kikuyu Collected by: K.P. Ndendero)

Along time ago, there was a man who was pregnant in the knee. People of his neighbourhood often told him that his knee was growing big. As time went on, the knee grew bigger and bigger . A time came when it was discovered that he would give birth. He went into a house and gave birth to three children. This man then took his three children somewhere into a cave. He gave them names, calling one girl Wanjiru.

After locking the cave from the outside, the man went to look for food so that he could feed the children. On coming back to the cave with the food, he usually sang a song so that the children could open the door for him to enter the cave. He had ordered them to close the entrance from inside, and not to open to anybody else other than himself.

He sang:

*Knee, Knee, Knee that has made me rich,
Gave birth for me to three children
Who I named Nyamathiriti, Nyamathangania, Nyamatuathanga
Njiru open for me I give you food
Which you know and which you don't know.*

Upon hearing that song , the children opened the door for him since they had recognised his voice. He entered the cave and gave them food to eat.

This routine was repeated every time the man went to look for food to feed his children. After quite some time had passed, the father of the children went to look for food as usual. He first locked the children from outside and they locked from the inside. Coming back to the cave with the food the man sang his usual song.

But Irimu had been eavesdropping, and heard the song the man sang. He therefore decided to eat those children in the cave when their father was absent. So when the father of the children, after some days, went again to look for food, Irimu approached the door to the cave and sang with a hoarse voice.

Knee, knee, that has made me poor, has made me rich,
Gave birth for me to three children
Who I named Nyamathiriti, Nyamathangania , Maturiathanga,
Njiru open for me , I give you food
Which you know and which you dont know.

After listening to that voice, the children knew that the voice was not their father`s.
Wanjiru then told the ogre Go away you fool; you are not my father. The ogre went
away realizing that the children would not open the door, since they had recognized that his
voice was not that of their father.

After the ogre had gone away the father of the children came back with food for the
children to eat. He then sang his usual song and the children recognized his voice and
opened for him.

Irimu then went to a witchdoctor and said there are some children I want to eat, how will
I know how to get them? The witch doctor answered, Go to the path of ants; lay your tongue
there and let them bite you. Get bitten, bitten and bitten. When the tongue oozes blood it
will then be able to sing like the father of those children.

Irimu then went to do as directed. He laid his tongue on the path of ants. But when
he was bitten by some ants, he rose up quickly and exclaimed, Phew, phew it hurts. He went
back to the witchdoctor and lied that he had really been bitten by the ants.

He then proceeded to the cave where the children were and sang with a voice that
was still hoarse.

After listening to that voice the children realized that it was not their fathers,
Wanjiru told him, Go away you fool, you are not our father.

Irimu had not softened his voice properly as he had been directed by the
witchdoctor because he was afraid of pain. He went back to consult the witchdoctor again.
The witchdoctor firmly directed him and said, Go and be bitten properly by the ants. So he
went to the path of the ants and laid his tongue there. He was bitten, bitten and bitten till his
tongue oozed blood and softened.

Now the father of the children sensing danger might befall his children, had advised
and warned them that When you`ll be taken from here while I am absent, take with you this
castor oil seeds. They are kept in a pot. So when you will be removed from here, you drop
the castor oil seeds, as you go, and I will follow you up to where you have been taken and I
will rescue you. Have heard that Wanjiru? Yes, replied Wanjiru.

After some days had gone by, the father of the children went again to look for
something to eat. The ogre having been bitten properly by the ants; came back to the cave.
He softened his mouth and then sang that song;

Knee, knee that made me poor, has made me rich.
Gave birth for me to three children
Who I named Nyamathiriti, Nyamathangania, Maturiathanga.
Njiru , open for me , I give you food

Which you know and which you dont know.

Wanjiru after listening to that voice and thinking it's her father who opened the door. Irimu pushed the door open and entered the cave. He rudely ordered the children. Out we go; But Wanjiru at that moment remembered the castor oil seeds pot. She snatched it before she was forcibly pushed outside. Wanjiru then started dropping the seeds from the door steps. She went on dropping and dropping, until the house to which they were taken. The father of those children came back to the cave with food for children to eat. But when he sang his usual song, the door was not opened. But at that moment he saw the seeds at the doorstep of the cave. He got alarmed and immediately knew that his children had been taken away. He followed the castor oil seeds until he reached a house where the seeds ended. Pretending to be a messenger sent on a mission he was welcomed into the house. He found that his children had been brought there by Irimu. But after staying there for some days, he organized a successful plan and stole his children back. They ran away and went back home to their cave. My story comes to an end.

Questions

(g) Place the above oral narrative in its correct sub genre. (2marks)

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(h) Identify and illustrate one socio economic activity of the society depicted in this oral narrative (2marks)

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(i) How has the oral artist portrayed the character of the father? (4marks)

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(j) The witchdoctor's advice to Irimu can be summed up in a general proverb.

(iii) Write down one such proverb from any community. (1mark)

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(iv) Explain its relevance to the witchdoctor's advice. (2marks)

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(k) What feature in this story shows that it is a traditional oral narrative? (4marks)

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(l) Imagine you are telling this story to a group of young children. How would you make the story more interesting? (4marks)

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(p) Which method do you think would be most suitable when collecting this narrative from the field? (1mark)

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4. GRAMMAR.

(f) **Rewrite the following sentences according to the instructions given after each. Do not alter the meaning.** (2 marks)

(iii) I have never seen a more beautiful girl. (Re-write beginning: This is.....)

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

(iv) Mango is usually punctual. (Rewrite using seldom).

.....
.....

(g) **Complete the following sentences by choosing the appropriate expressions to fill the gaps.**

(2marks)

(iii) Although Nduati is a great friend of mine. Ihim on a few important issues.(differ to , differ with)

(iv) As good citizens, we must all pay our taxes.....the policy. (in accordance to, in accordance with).

(h) **Fill in the blanks spaces with the correct forms of the words given in bracket.**(4 marks)

(v) She may consider helping the orphan on (human) grounds.

(vi) Ndeko still wants more food even after clearing a whole plateful of Ugali. His appetite is simply (Satisfy).



(vii) His can only be compared to that of his great grandfather.
(Mediocre)

(viii) After the inferno, the Roche's had to buy new (furnish) for their house.

(i) **Use the correct phrasal verbs in places of the underlined words and phrases. Use the verbs in brackets.** (3 marks)

(iv) It is quite evident from the boy's photographs that he resembled his mother (Take).

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.....

(v) They all waited anxiously for the event as it was a time they met their friends. (Look)

.....
.....

(vi) It is not easy to declare a complete loss over a debt of more than one thousand shillings.
(write)

.....
.....

(j) **Add an appropriate question tag to each of the following sentences.** (3marks)

(iv) They aren't serious

.....

(v) They won't shut up

.....

(vi) Let us go.

.....

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

101/3

ENGLISH

PAPER 3

(CREATIVE COMPOSITION AND ESSAYS BASED ON SET TEXTS)

TIME: 2 HOURS

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- g) Write our name and index number in the spaces provided above
- h) Sign and write the date of examination in the spaces provided above
- i) Answer **three** questions only
- j) Questions **1** and **2** are compulsory
- k) In question **3** choose only one of the optional set texts you have prepared on
- l) Where a candidate presents work on more than one optional set text, only the first one to appear will be marked
- m) Each of your essays must not exceed 450 words
- n) All your answers must be written on the answer sheet provided
- o) This paper consists of 2 printed pages
- p) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- q) Candidates must answer the questions in English.

For Examiner’s Use Only

Question	Maximum Score	Candidate’s Score
	20	
	20	
	20	
Total Score	60	

Answer three questions only.

1. Imaginative Composition

(20 marks)

Either

- a) Write an imaginative composition with the following beginning:

It was hard to believe that a mere phone call on that day could change my life.....

Or

- b) Write a composition explaining what should be done to reduce indiscipline in schools.

2. Compulsory Set Text

Henry Ole Kulet, Blossoms of the Savannah

“Self interest is a vice that whoever engages in is bound to fail.” Using Blossoms of the Savannah by Henry Ole Kulet, write an essay to support this assertion.

3. Optional Set Texts

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

Either

a) The short story

Chris Wanjala (Ed.), Memories We Lost and Other Stories

“African countries lose their people to the western world due to reasons at home and in host countries.” Write an essay to support the statement, drawing illustrations from the story Missing Out by Leila Aboulela

Or

b) The Pearl, John Steinbeck

Justify the assertion that “Human beings are inherently hypocritical” with evidence from Steinbeck’s The Pearl.

Or

c) Drama

David Mulwa, Inheritance

“Fate has a way of punishing or rewarding its victims based on their actions. Drawing illustrations from the play *Inheritance* by David Mulwa, write an essay to justify this statement.

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

101/3

ENGLISH

PAPER 3

(CREATIVE COMPOSITION AND ESSAYS BASED ON SET TEXTS)

TIME: 2 HOURS

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

- r) Write our name and index number in the spaces provided above
- s) Sign and write the date of examination in the spaces provided above
- t) Answer **three** questions only
- u) Questions **1** and **2** are compulsory
- v) In question **3** choose only one of the optional set texts you have prepared on
- w) Where a candidate presents work on more than one optional set text, only the first one to appear will be marked
- x) Each of your essays must not exceed 450 words
- y) All your answers must be written on the answer sheet provided
- z) This paper consists of 2 printed pages
- aa) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- bb) Candidates must answer the questions in English.

For Examiner’s Use Only

Question	Maximum Score	Candidate’s Score
	20	
	20	
	20	
Total Score	60	

Answer **three** questions only.

1. **Imaginative Composition**

(20 marks)

Either

c) Write an imaginative composition with the following beginning:

It was hard to believe that a mere phone call on that day could change my life.....

Or

d) Write a composition explaining what should be done to reduce indiscipline in schools.

2. **Compulsory Set Text**

Drawing illustrations from Henrik Ibsen's **A Doll's House**, write an essay to justify the statement: All her life, Nora has been treated like a doll to be petted and shown off.

3. **Optional Set Texts**

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

Either

d) **The short story**

Chris Wanjala (Ed.), *Memories We Lost and Other Stories*

“African countries lose their people to the western world due to reasons at home and in host countries.” Write an essay to support the statement, drawing illustrations from the story Missing Out by Leila Aboulela

Or

e) The Pearl, John Steinbeck

Justify the assertion that “Human beings are inherently hypocritical” with evidence from Steinbeck’s *The Pearl*.

Or

f) **Drama**

David Mulwa, *Inheritance*

“Fate has a way of punishing or rewarding its victims based on their actions. Drawing illustrations from the play *Inheritance* by David Mulwa, write an essay to justify this statement.

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

311/1

GEOGRAPHY

PAPER 1

TIME: 2 ¾ HOURS

Instructions to candidates

- a. This paper consist of two sections; **A** and **B**
- b. Answer **all** questions in section A
- c. Answer question **6** and any other **two** questions from section n B
- d. All answers must be written in the answer booklet provided
- e. Candidates should answer the questions in English
- f. Candidates should check the question paper to ascertain all the pages are printed and that no questions are missing.

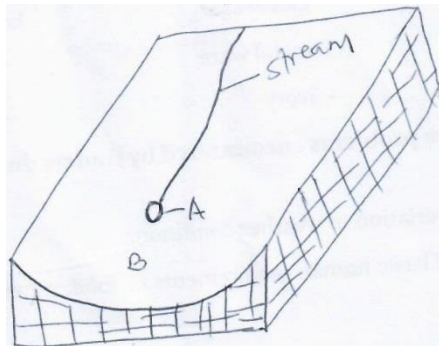
Question	Maximum Score	Candidate’s Score
Section A		
Question 6		
Question 7		
Question 8		
Question 9		
Question 10		
Total		

Section A

1. a) State the uniqueness of Geography as compared to other subjects. (2 marks) b) Give three examples of human environment you know. (3 marks)
2. The table below shows rainfall and temperature figures for a given station. Study it and answer question (a)

Months	J	F	M	A	M	J	J	A	S	O	N	D
Rainfall (mm)	80	120	340	150	130	90	100	120	320	120	100	80
Temperature(°C)	28	29	32	31	28	28	29	30	31	30	29	28

- a. Calculate the annual temperature range for the station (1mark)
 - b. Describe the climate for the station (4marks)
3. a. The diagram below shows surface features of karst scenery.



- Identify the features marked A and B. (2 marks) b. State three conditions necessary for development of karst scenery. (3 marks)
4. a) Define an earthquake. (2 marks)
b) State three physical causes of earthquakes. (3 marks)
 5. a) Distinguish between aridity and desertification. (2 marks) b) State any three solutions to the problem of aridity. (3 marks)

Section B: Answer question 6 and any other two questions in this section.

Answer question 6 and any two questions

6. Study the map of KIJABE 1:50,000 (Sheet 134/3) provided and answer the following questions.

a. Use of marginal information.

i) Give the representative fraction scale of the map. (1 marks) ii)

Identify the vertical interval of the map. (1 mark) iii) What

type of road is D398. (1 mark) iv) What is the six-

figure grid reference for Mai Mahiu school. (2marks)

b. Measure the distance of the railway line from the level crossing near Kijabe post office to Kijabe station (2marks)

c. Describe vegetation of the area covered by the map. (2 marks)

d. Draw a rectangle measuring 10 x 6 cm to represent the area bounded by eastings 30 and 40 and northing 94 and 00. (2 mark)

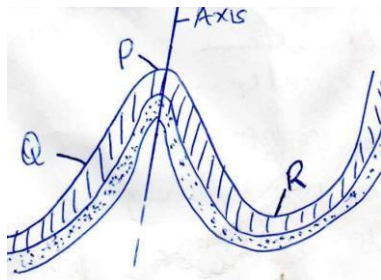
i) On it show; Thicket vegetation, railway line and quarry. (3 marks) ii) Calculate the new scale of the area you've drawn in (b) above. (2 marks) e. With evidence identify

three social services offered in the area. (6 marks)

f. Name any three artificial drainage features found in the area. (3 marks)

7. a. i. Distinguish between glacial till and fluvio-glacial till. (2 marks) ii. Give two reasons why there are no ice sheets in Kenya (2 marks)
- b. Explain three factors that influence the movement of ice from the place of accumulation.
- c. Describe how the following glacial erosional features are formed. (6 marks)
- i) Arete is formed (4 marks)
- ii) Glacial trough
- d. You carried out a field work on glaciated lowlands. (4 marks)
- i) Mention two methods of data collection you used. (2 marks)
- ii) Name three glacial depositional features you identified. (3 marks)
- iii) Give two follow up activities that you carried out. (2 marks)

8. a. Differentiate between folding and faulting (2 marks)
- b. i. Apart from rift valley, name three features resulting from faulting (2 marks) ii. Using well labeled diagrams, describe the formation of the rift valley by tensional forces. (8 marks)
- c. i) The diagram below shows a fold. Name the parts marked P, Q and R. (3 marks)



- ii) Name the fold mountains found in; (4 marks)
- North west Africa
- South America
- Western North America
- Asia

- d. State and explain any three effects of fold mountains on the climate of a place. (6 marks)

9. a) (i) State three wind erosion processes (3 marks)
- (ii) Give three factors leading to development of deserts. (3 marks)
- b) Explain two ways through which wind transports materials in the deserts (4 marks)
- c) Describe formation of:-
- (i) Wadi (3 marks)
- (ii) Seif dune (3 marks)
- (iii) Rock pedestal (3 marks) d)
- Explain three negative effects of desert land forms (6 marks)
10. a. i. Give three determinants of soil colour (3 marks) ii.
- State four ways in which humus improve the quality of the soil (4 marks) iii. Name two types of soil according to structure. (2 marks)
- b. Explain how the following factors influence formation of soil (4 marks)
- Living organisms
- Topography
- c. Explain four causes of soil degeneration (4 marks)
- d. You intend to carry out a field study on soil erosion around your school.
- i. Give two methods of data recording you will use (2 marks)
- ii. Identify two causes of soil erosion you are likely to come across. (2 marks)

Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

312/2

–GEOGRAPHY–

PAPER 2

Instructions to candidates

- (a) *Write your Name and Index Number in the spaces provided above,*
- (b) *Sign and Write the Admission number in the spaces provided above;*
- (c) *This paper consists of two Sections; A and B.*
- (d) *Answer all the questions in Section A.*
- (e) *Answer question 6 and any other two questions from Section B.*
- (f) *Answers must be written in the spaces provided at the end of question 10.*
- (g) *This paper consists of 4 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 should answer the questions in English.*

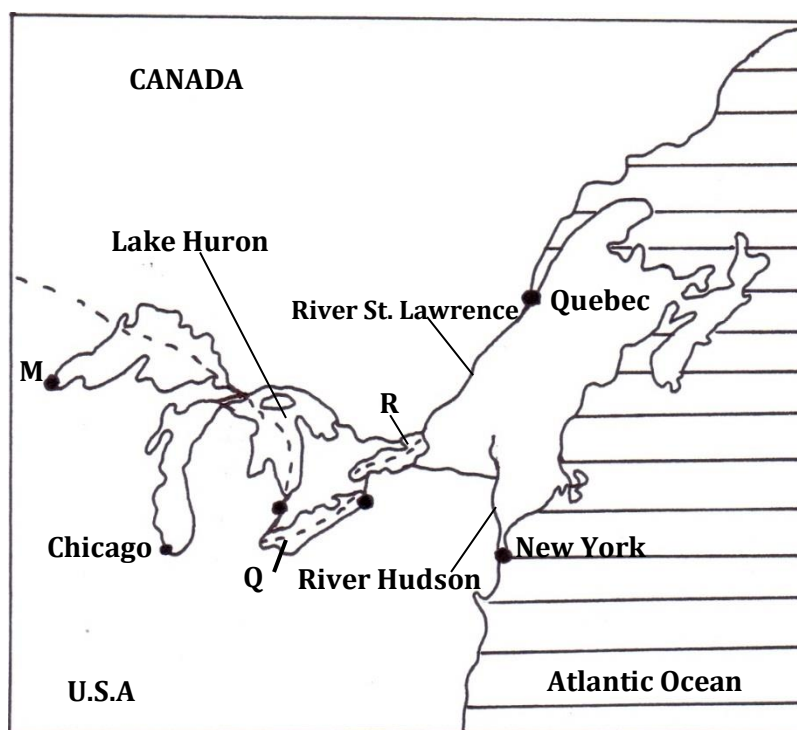
For Examiner's use only

Section	Question	Maximum score	Candidate's score
A	1 – 5	25	
B	6	25	
		25	
		25	
TOTAL SCORE			

SECTION A (25 MARKS)

ANSWER ALL THE QUESTIONS IN THIS SECTION

1. a). Define the term energy crisis (2mks)
b) State **three** limitations of using solar energy (3mks)
2. a) Give **two** problems facing river transport in African. (2 marks)
b) The diagram below shows the Great Lakes and the St. Lawrence sea way. Use it to answer the questions below.



- Name the lakes **M**, **Q** and **R**. (3mks)
3. a) Apart from tropical hardwood forests name two other types of natural forests (2mks)
b) State **three** problems experienced in exploitation of tropical hardwood forests (3mks)
4. a) Give **three** physical factors that favour coffee growing in Kenya highlands (3mks)
b) State **two** problems facing coffee farming in Kenya (2mks)
5. a) Give **three** types of fish (3mks)
b) List **two** traditional methods of fishing (2mks)

SECTION B

Answer question 6 and any other two questions from this section

6. The table below shows crops production in Kenya for a period of five years in 1000 kilograms. Use it to answer question (a)

CROP/YEAR	2005	2006	2007	2008	2009
Coffee	1000	900	800	700	800
Tea	700	700	600	680	600
Cotton	500	400	300	600	350
Pyrethrum	300	200	300	440	450

- (a) (i) Using a scale of 1 cm represent 200 kilograms present the above data using a compound bar graph. (9 marks)
- (ii) List **two** advantages of using a compound bar graph to represent statistical data. (2mks)
- (b)(i) Other than Ghana, name other two countries West Africa where cocoa is grown (2mks)
- (ii) State **three** physical conditions that favor the growth of cocoa in Ghana. (3mks)
- (c) Describe how cocoa is processed in Ghana (6mks)
- (d) Give **three** importance of cocoa production to the economy of Ghana. (3mks)

7 . Study the photograph shown below and use it to answer the following questions.



- a) i) Identify the type of the photograph shown above. (1mks)
- ii) Identify **two** characteristic of the photograph shown above. (2mks)
- iii) Give **three** parts of a photograph. (3mks)
- b) Name the type of mining method shown above. (1mks)
- c) Explain how the method named above (b) is carried out. (6mks)
- d) Explain **four** negative effects of the above method of mining on the environment. (8mks)
- e) Draw a sketch diagram to represent the photograph shown above. (4mks)

8. a) (i) Define the term land rehabilitation (2 marks)
- ii) Apart from irrigation, name **three** other methods of land reclamation in Kenya. (3 marks)
- b) Explain **three** problems facing irrigation farming in Kenya. (6 marks) c) Describe the stages of polderization in the Netherlands (5 marks)
- d) You intend to carry out a field study on irrigation farming in Mwea Tebere irrigation scheme
- i) Identify the **two** types of hypothesis you would develop for the study (2mks)
- ii) Name **five** crops grown in the scheme that you are likely to identify (5mks)
- iii) Give **two** reasons why you need to sample the area of study (2mks)
9. (a) i) Define the term industrial inertia (2mks)
- ii) Give **three** causes of industrial inertia (3mks)
- b) Name **three** agricultural non-food processing industries in Kenya (3mks)
- c) i) What is cottage industry (2mks)
- ii) List **four** ways in which Jua Kali industries is important to the Kenyan economy (4mks)
- d) i) State **three** problems facing cottage industry in India (3mks)
- ii) Explain **four** factors that led to the development of iron and steel industry in the Ruhr region of Germany (8mks)
10. a) i) What is environmental management (2mks)
- ii) Give **four** reasons why it is necessary for Kenya to conserve her environment (4mks)
- b) Explain **four** measures that can be taken to combat pollution (8mks)
- c) i) Name **five** types of wastes found in urban areas (5mks) ii) Explain three ways in which wastes in urban centres can be managed (6mks)

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

311/1

HISTORY AND GOVERNMENT

PAPER ONE

TIME 2 1/2 HOURS.

INSTRUCTIONS TO CANDIDATES

- a) Write Your Name And Index Number
- b) This Paper consists of Three Sections A, B And C
- c) Answer All Questions in Section A, **three** questions from section B, and **two** questions from Section C.

For official use only

Section	Question	Maximum	Candidate’s score
A	1 – 17	25	
		15	
B		15	
		15	
C		15	
		15	

TOTAL

1. Name the local state of the evolution of Man 1mk
2. State two ways in which migration of the Cushites into Kenya affected the Agikuyu 2mks
3. State two functions of the council of elders among the Somali.
4. State the main factor that contributed to the growth of city states along the Kenyan coast before 1500A.D 1mk
5. Give one economic responsibility of a Kenyan citizen 1mk
6. State two ways in which poverty undermines national unity 2mks
7. Identify two minority groups whose rights were protected by the constitution of Kenya at independence 2mks
8. Identify the main disadvantage of democracy 1mk
9. Identify two ways in which the results of collaboration of the Maasai with the British were similar to that of the Wanga
10. Give one reason why government encouraged settlers to come to Kenya during the colonial period 1mk
11. What was the main reason for the formation of the Kenya African democratic union in 1960 1mk
12. Name two African leaders who represented the Kenya African national union in the second Lancaster house conference 2mks
13. Identify the main reason for the impeachment of county governors in Kenya 1mk
14. Identify two types of ownership spelt out in the African socialism adopted in Kenya after independence 2mks
15. Identify two accounts where public revenue is stored in Kenya 2mks
16. Name the body that makes laws in Kenya's devolved units
17. Give the main challenges facing the free primary education programme since 2003

SECTION B

18. a. Give five reasons which influenced the migration of the Abagusii into Kenya during the pre-colonial period 5mks
- b. Discuss five effects of the migration and settlement of the plain Nilotes during the pre-colonial period
19. a. Give three causes of the Somali resistance to the British rule in Kenya during the 19th century 3mks
- b. Explain six negative effects of British colonial rule on the people of Kenya
20. a. State five factors that facilitated the Mau Mau Movement 5mks
- b. Explain five roles played by the trade union movement in the struggle 10mks
21. a. Identify three pillars of the Nyayo Philosophy 3mks
- b. Discuss six achievements of Daniel Moi as president between 1978 – 2002 12mks

SECTION C

22. a. Name three National holidays recognized by the constitution of Kenya (2010) 3mks
- b. Explain six principles of Democracy as exercised in Kenya 12mks
23. a. State three qualification for a person to be eligible for election as a member of the National Assembly 3mks
- b. Explain six functions of the speaker of the National Assembly in Kenya 12mks
24. a. Identify five ways in which capital expenditure is utilized 5mks
- b. Describe five ways how county and National government relate in Kenya today 10mks

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

311/2

HISTORY AND GOVERNMENT

PAPER TWO

TIME 2 1/2 HOURS.

INSTRUCTIONS TO CANDIDATES

d) Write Your Name And Index Number

e) This Paper Consists of Three Sections A, B And C

f) Answer All Questions In Section A, **Three** Questions from Section B, And **Two** from Section C.

For official use only

Section	Question	Maximum	Candidate’s score
A	1 – 17	25	
B	18	15	
	19	15	
	20	15	
	21	15	
C	22	15	
	23	15	
	24	15	
Total			

Section A 25 marks

1. Give the relationship between history and government 1mk
2. Name two types of dwelling used by early man during the early stone age period 2mks
3. Name two theories explaining the origin of agriculture 2mks
4. Name two ways in which Africans participated in the trans-Atlantic trade 2mks
5. Highlight two disadvantages of animal transport 2mks
6. Give one early form of material used in writing messages 1mk
7. Give two energy sources during the industrial revolution 2mks
8. Give the main factor that led to the decline of meroe 1mk
9. Outline two ways in which the acquisition of fire arms enabled the kingdom of Buganda to expand during the pre-colonial period
10. State one way through which the Europeans maintained peace among themselves during the partition of Africa 1mk
11. Identify two benefits enjoyed by the assimilated Africans in Senegal 2mks
12. Give one political reform introduced by Fredrick De Klerk that led to majority rule in south Africa 1mk
13. Highlight one way in which economic rivalries between European powers contributed to the outbreak of the first world war 1mk
14. Name two founder members of Non-Aligned movement 2mks
15. Give one financial institution established by the African union 1mk
16. Identify one principle of Arusha declaration of 1967 1mk
17. Name one house of parliament in India 1mk

Section B 45 marks

18. a. State five ways in which the discovery of fire by early man improved his way of living 5mks
- b. Explain five challenges faced by early humans in hunting and gathering activities 10mks

19. a. Identify five traditional forms of communication 5mks
b. Explain five positive effects of telecommunication 10mks
20. a. State five methods which were used by the Europeans to acquire colonies in Africa 5mks
b. Explain five consequences of the Lewanika collaboration with the British 10mks
21. a. Give five ways used by nationalists in Ghana to fight for independence 5mks
b. Explain five differences between the use of British indirect rule and French assimilation policy 10mks

Section C 30 marks

22. a. State three factors that led to the growth of Asante kingdom 3mks
b. Describe three social organization of the Shona 12mks
23. a. State the ways through which united nations promotes good governance 3mks
b. Explain six challenges facing the Common Market for East Africa (COMESA) 12mks
24. a. State three functions of the house of Lords in Britain 3mks
b. Explain six powers of the president in India 12mks

Name:

School:

Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

441/1
HOMESCIENCE
Paper 1
(THEORY)
TIME: 2 ½ HOURS

INSTRUCTIONS TO CANDIDATES

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

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE’S SCORE
A	1 – 40	40	
B	41	20	
C	42 – 44	20	
	42 - 44	20	
TOTAL SCORE			

SECTION A

Answer all the questions in this section in the spaces provided

1. Identify two soft furnishings used in the bedroom. (1mk)

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2. List two methods of removing dirt from surfaces in the home. (1mk)

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3. Give two uses of interfacing in garment construction. (1mk)

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4. Name two vaccines a child should be given by the age of 9 months. (1mk)

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5. State two advantages of having labels on consumers products. (1mk)

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6. Mention two disadvantages of roasting food. (1mk)

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7. Give two points to consider when choosing flowers for a table arrangement. (1mk)



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8. State two factors that determine dietary needs of an individual. (1mk)

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9. Give two reasons for including whole grain cereal in diet. (1mk)

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10. Identify two components of a two course meal. (1mk)

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11. Differentiate between fixed expenditure and flexible expenditure as used in consumer education. (1mk)

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12. Give two causes of natural food poisoning. (1mk)

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13. Mention two qualities of a good toy for a girl aged 1½ years old. (1mk)

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14. Give two uses of temporary stitches in clothing construction. (1mk)

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15. Why is it important to fold in the flour in creamed cake mixtures using a metal spoon? (1mk)

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16. Mention two ways of neatening the lower edge of a sleeve other than using a cuff. (1mk)

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17. Identify two fabrics which cannot be disinfected by boiling. (1mk)

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18. Which are the two ways a cook can infect food with germs? (1mk)

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19. Note down two effects of deep frying proteins food without coating. (1mk)

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20. Explain the effect of light and bright colour on a high ceiling. (1mk)

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21. Give two functions of overlaid seam. (1mk)

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22. Mention two reasons why an expectant mother should be tested for HIV/AIDS. (1mk)

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23. Suggest two other methods of storing clothes and household linens apart from folding. (1mk)

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24. Identify two factors that influence the choice of colour scheme of a room. (1mk)

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25. List two fastenings suitable for a toddlers garment. (1mk)

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26. State two determinants of safe parenthood. (1mk)

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27. Give two qualities of fabric for making PE short. (1mk)



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28. Mention two causes of missing stitches during machining. (1mk)

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29. Give two disadvantages of canned food. (1mk)

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30. Highlight two factors that encourage the use of convenience foods. (1mk)

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31. Name two agents of food spoilage. (1mk)

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32. Identify two methods of attaching a collar. (1mk)

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33. Define complimentary or supplementary feeding. (1mk)



34. Give two qualities of good advertisement. (1mk)

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35. Outline two points to consider when selecting lighting fixtures. (1mk)

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36. What is gusset? (1mk)

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37. Give two ways in which a home maker can prevent time wastage. (1mk)

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38. Give reasons for softening water for laundry work. (1mk)

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39. Name two commonly known sleeves. (1mk)

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40. State two disadvantages of using credit cards. (1mk)

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SECTION B: (20 MARKS)

COMPULSORY

41. You have been assigned by your aunt to assist in carrying out some household chores.

Describe how you would

(a) Launder a long sleeved silk shirt.

(8mks)

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(b) Daily cleaning of a toilet.

(7mks)

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(c) Plastic basin used by your sick uncle.

(5mks)

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SECTION C: (40 MARKS)

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

- 42. (a) Explain any four methods of conserving energy in the home. (8mks)
- (b) Give four ways in which the rights of a consumer can be violated. (4mks)
- (c) Mention four ways pastry can be kept cool during preparation. (4mks)
- (d) State four dangers of careless disposal of polythene bags. (4mks)

- 43. (a) Explain five reasons why soft furnishings are used in homes. (5mks)
- (b) Mention five reasons for pressing during garment construction. (5mks)
- (c) State six preventive measures to curb the spread of infections when caring for the sick at home. (6mks)
- (d) List four functions of the Kenya Consumer Association. (4mks)

- 44. (a) Identify five problems related to breast feeding and their remedies. (5mks)
- (b) State four disadvantages of rechauffe dishes or cookery. (4mks)
- (c) Describe the preparation of interfaced shirt collar before attaching. (7mks)
- (d) Name four factors that determine the cleansing action of a detergent. (4mks)



Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

441/2

HOMESCIENCE CLOTHING & TEXTILE PAPER 2 (Practical) TIME: 2 1/2 HOURS

INSTRUCTIONS TO CANDIDATES

- a) This paper consists of 3 printed pages
- b) Candidates should check the question paper to ascertain that all pages printed as indicated and that no questions are missing.

A pattern of a child's dress is provided. You are advised to study the sketches, the question paper and the layout carefully before you begin the test.

Material provided.

1. Pattern pieces
 - A. Dress front
 - B. Dress back
 - C. Sleeve
 - D. Sleeve binding and ties
 - E. Sleeve opening facing
 - F. Front neck facing
 - G. Back neck facing
 - H. Pocket
2. Plain light weight cotton fabric 70cm long by 90cm wide.
3. Sewing thread to match fabric.
4. One large envelope.

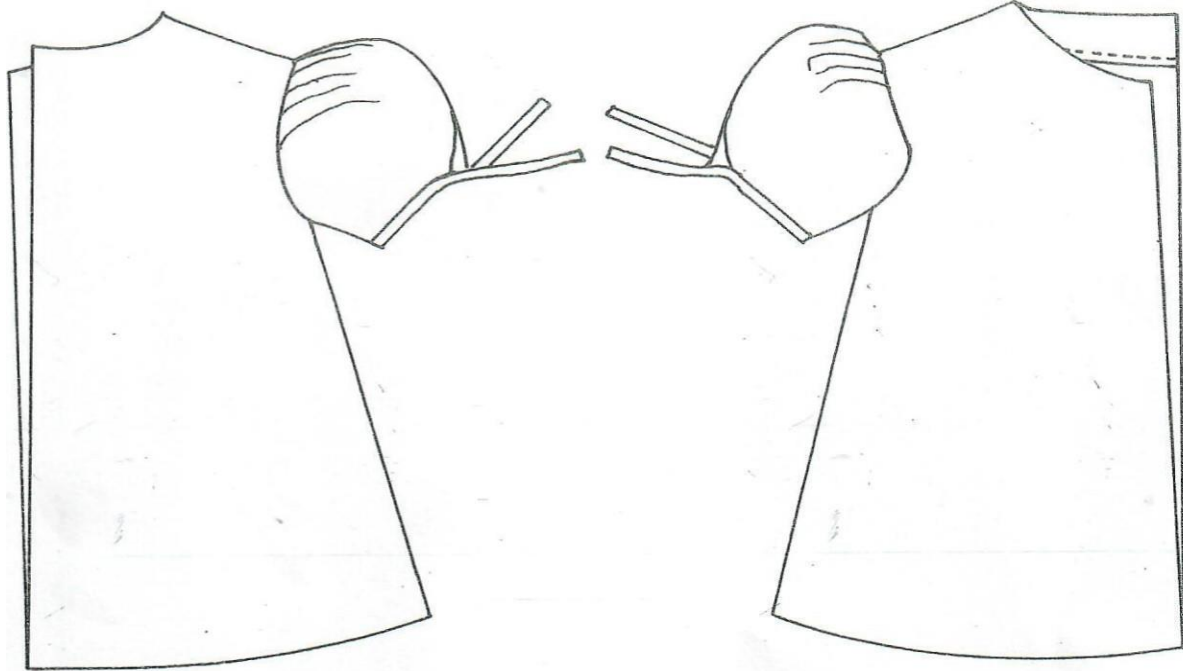
The Test

Using the materials provided, cut out and make up the RIGHT HALF of the child's dress to show the following;

- a) Making of double pointed dart at the back (9mks)
- b) The making of a French seam at the shoulder. (6mks)
- c) The preparation and attachment of the patch pocket. (17 hmks)
- d) The joining of the side seam with a neatened open seam. (4mks)
- e) The preparation of a faced slit opening. (4 hmks)
- f) The joining of the under arm seam using machine fell seam. (9 hmks)
- g) The binding of the lower edge of the sleeve and preparation of the tie ends. (6mks)
- h) The preparation and attachment of the sleeve. (5mks)
- i) The preparation and attachment of the neck facings. (5mks)

NB: Do not neaten or trim the arm hole seam allowance.

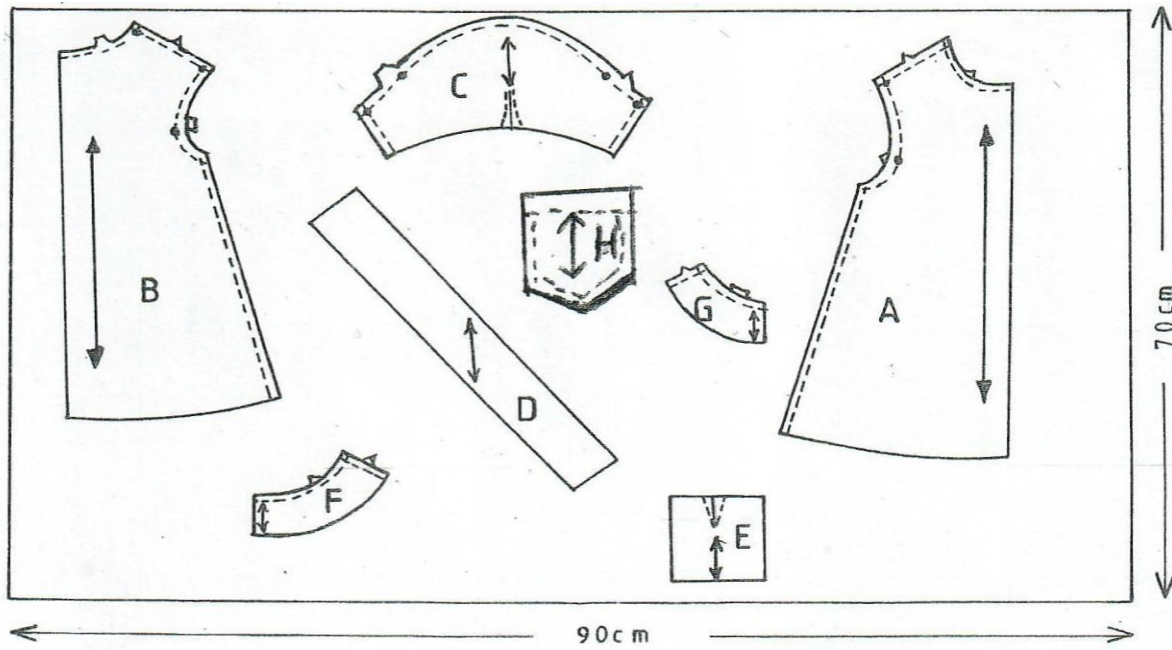
At the end of the examination, firmly sew on to your work on a single fabric a label bearing your name and index number. Remove the needles and pins from your work, then fold your work carefully and place it in the envelope provided. Do not put scraps of fabric in the envelope.



BACK VIEW

FRONT VIEW

THE LAYOUT (NOT DRAWN TO SCALE)



Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS
K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

441/3

HOMESCIENCE

(FOOD AND NUTRITION)

PAPER 3

PRACTICAL

TIME: 1 ¾ HOURS

INSTRUCTIONS TO CANDIDATES

- a) Read the test carefully
- b) Write your name and index number on every sheet of paper used.
- c) You are advised to spend 30 minutes to come up with a plan of work which will be used for the practical
- d) Textbooks and recipes may be used during the planning session as reference materials.
- e) You will be expected to keep to your order to work during the practical session.
- f) You are **allowed** to take away your reference materials at the end of the planning session.
- g) You are **not** allowed to bring **additional notes** to the practical session.

THE TEST

you and your two friends are going out on a picnic. prepare, cook and pack two 4.00pm o'clock tea items for the three of you. Include a suitable beverage and a fruit.

INGREDIENTS

- Fat/oil
- Salt
- Eggs
- Sugar
- Cocoa/tea leaves
- Self raising wheat/plain wheat flour
- Baking powder
- Milk
- Arrow roots/sweet potatoes.
- Mango/orange /ripe banana

PLANNING SESSION: 30 MINUTES

Use separate sheets of paper for each task below and carbon paper to produce duplicate copies. Then proceed as follows:

1. Identify the dishes and write down their recipes.
2. Write down your order of work.
3. Make a list of the food stuffs and equipment you will require.

Jina :

Nambari Ya Usajil : Tarehe:.....Sahihi:.....

Shule:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

KIDATO CHA NNE

102/1

KARATASI YA KWANZA

MUDA: SAA 1 $\frac{3}{4}$

MAAGIZO

- Andika insha mbili.
- Insha ya kwanza in ya **LAZIMA**.
- Andika insha nyingine moja kati ya hizo tatu zilizosalia.
- Kila insha isipungue maneno **400**.
- Kila insha iandikwe kwa **lugha ya Kiswahili**.

SWALI	1	2	3	4	JUMLA
UPEO	20	20	20	20	80
JUMLA					

1. (LAZIMA)

Andika tahariri kwa gazeti la Alwodo ukieleza sababu za watoto wengi nchini Kenya kuingilia ajira za mapema na kuacha masomo ya sekondari. (al.20)

2. Matumizi ya tarakilishi katika shule za misingi na za upili yana uzuri na ubaya wake. Jadili. (al.20)

3. Andika kisa kitakachodhihirisha maana ya methali 'Cha mwenzako kikinyolewa chako kitiie maji' (al.20)

4. Adika insha itakayomalizia kwa: Nilijitazama na kujidharau kwa nini sikuwafahamisha walimu jambo hilo mapema. (al.20)

Jina :

Nambari Ya Usajil : Tarehe:.....Sahihi:.....

Shule:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

KIDATO CHA NNE

102/2

KARATASI YA 2

MUDA: SAA 2 ½

MAAGIZO

- f) Andika Nambari yako ya usajili na darasa katika nafasi ulizoachiwa hapo juu.
- g) Tia sahihi yako kishauandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu
- h) Jibu maswali yote.
- i) Majibu yote yaandikwe katika nafasi ulizoachiwa katika kijitabu hiki cha maswali.
- j) Majibu yote lazima yaandikwe katika lugha ya Kiswahili.
- k) Karatasi hii ina kurasa 12 zilizopigwa chapa.
- l) Hakikisha kuwa kurasa zote zimepigwa chapa

Kwa Matumizi ya mtahiniwa

SWALI	SWALI	UPEO	ALAMA
1	Ufahamu	15	
2	Ufupisho	15	
3	Matumizi ya lugha	40	
4	IsimuJamii	10	
JUMLA		80	

1. UFAHAMU (ALAMA 15)

Soma kifungu kifuatacho kisha ujibu maswali yanayofuatia.

Nchi yetu imeraukia mawio ya machafuzi ya kisiasa baada ya shughuli za uchaguzi zilizogonga mwamba mkuu. Hili lilijiri baada ya Tume ya uchaguzi kukosa kuendeleza uchaguzi kwa njia inayostahili. Jambo hili lilizaa msukosuko wa kisiasa usiomithilishwa katika historia ya taifa letu.

Hivi sasa wakenya wanaishi kwenye kambi za watu wasio na makazi. Hiki ni kinaya kikuu kwani matukio haya yamezuka baada ya miongo minne ya uhuru. Vilio vya wakenya vimeshamiri na kupaasa sauti vikalalamikia kukosa makazi, lishe na ndoa kusambaratika. Ndoa zimevunjika baada ya 'wenyeji' kuwatimua 'wageni na damu kumwagika.

Kenya imekuwa miongoni mwa mataifa yanayowapa faraja wakimbzi kutoka nchi jirani zinazokumbua na vita vya wenyewe. Vita katika Somalia vimesababishwa na koo mbali zinazopigania uongozi hali ambayo imekwamisha shughuli zote za kiuchumi.

Hali ya sasa ya Kenya imechochewa na msururu wa sababu; ukabila na tama ya uongozi zilionekana wazi katika miundo ya vya vya kisiasa na katika kampeni zao. Wakenya walipiga kura kwa misingi ya kikabila upande ukitazamia mtu wao kushinda uchaguzi huo.

Kwa upande mwingine, viongozi hao kutokana na tamaa ya uongozi walikuwa wamesmua kushinda uchaguzi huo kwa vyovyote vile. Leo tunavuna matunda ya siasa za ukabila na tamaa ya mamlaka.

Maelfu ya wakenya ni makimbizi nchini na katika nchi jirani ya Uganda. Wakenya hao wanahitaji msaada wa chakula na mahitaji mengine ya kimsingi. Serikali na shirika la msalaba mwekundu zimefanya juhudi kuwasaidia wahasiriwa lakini kuna tetesi kwamba ubaguzi umejipenyeza katika ugawaji wa msaada huo.

Waliopewa jukumu la kugawa msaada huo ni sharti waelewe kuwa waathiriwa ni wakenya wenzao na hawafai kubaguliwa kwa misingi ya makabila yao. Matukio kama hayastahili asilani katika taifa hili.

Twahitaji zao aali la viongozi wasiojitwika ubabe bali wawe watumishi wa wananchi wanastahili kutupilia mbali tamaa za kujilimbikiza mali na kung'ang'ania uongozi. Pia katiba inafaa irekebishwe. Wakenya wanastahili kuelimishwa kuhusu undugu na utaiifa. Fauka ya haya masuala yanayohusiana na hatimiliki za ardhi yanafaa kutandaraukiwa kwa dhati.

a) Taja madhara manne ya ukabila.

(al.4)

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b) Shughuli za ugawaji wa misaada zimekumbwa na changamoto gani.

(al.2)

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c) Eleza tofauti ya chanzo cha vita nchini Somalia na Kenya.

(al.2)

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d) Mwandishi anatoa mapendekecho gani ya kutatua tatizo hili la ukabila.

(al.3)

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e) Eleza kinaya cha maisha ya wakenya kwa sasa.

(al.2)

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- f) Eleza maana ya maneno haya yalivyotumika katika kifungu cha ufahamu. (al.2)
i. Mawio.

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- ii. Tandaraukiwa kwa dhati.

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2. UFUPISHO

Soma makala haya kishaujibu maswali yanayofuata.

Tangu asili –na jadi nasikitika kusema kuwa tumekuwa tukiwakandamiza mabanati wetu na kuwateka bakunja ilhali wameonyesha kuwa mikono miepesi. Siku mojanilikuwa nikitembea na babu yangu mkongew tulipoliona tapo lawanawake kwambali. “Funika kombe mwanaharamu apite!” akininong’onezea, wanahusudu uwezo tu. “Kwa uchungu watu wa fikira sikuelewa yakini alichotazamia lakini hii leo nang’amua. Basi imenibidi kutupilia mbali dhana hiyo hafidhina kwani asifuye mvua aghalabu imemnyea.

Jina nzuri hung’aa gizani na bila shaka majina ya wanawake watu yameremeta kama nyota. Kwanza, wamejitolea mhanga katika nyanja za masomo. Si baba ambao wamehitimu kutoka vyio vikuu vya humu nchini na vile vile vya ughaibuni na kujipa shahada kadha wa kadha. Wamepata ujuzi wa kutosha katika maswala tatizo kama vile udaktari na uanasheria. Hivi ni kumaanisha kuwa tuna madkari shupavu, basi tuwape nafasi tusiendeleo kuwa nyuma mithili ya koti katika kipengele hiki muhimu cha maisha. Ni wanawake ndio, lakini mgalla muue na haki umpe!

Vile vile wanawake wenu wamejitokeza kifua mbele katika hatamu za uongozi. Mfano mwafaka katika serikali yetu, ambapo mawaziri ni wanawake. Nani asiyewafahamu, Cecily Kariuki, Racheal Omamo na Amina Mohamed? Wote wanafanya bidii za mchwa kustawi maisha ya wananchi. Ingekuwa ida na inadi kama tungewanyima viongozi hawa nafasi hizo na bila shaka jambo hili lingethiri sana ujenzi wa taifa kwani ujuzi ndio nguzo ya kila kitu.

Kwa upande mwingine wanawake ni walezi waliomakinika. Kama tujuavyo udongo hupatilizwa ungali maji na usipoziba ufa huna budi kujenga ukuta. Nani ndio wamepokezwa jukumu mahiri la malezi? Nina zetu hujitolea kwa hali na mali kuwakuza watoto kwa tajriba zinazofaa na kuwafunza maisha ndiposa wasifunzwe na ulimwengu. Aliyemakinika atakubaliana name kuwa malezi si jambo la kufanyiwa mzaha katika harakati za ujenzi wa taifa. Na huu wajibu wote ni wa mwanamke.

Siwezi kuwasahau wanamke wanamuziki. Sote twaelewa kuwa kwa uchumi kama wetu, kutengemea kazi ya kuajiriwa ni kutaka muhali, chambilicho wahenga mchagua jembe si mkulima. Nashukuru wanadada wetu kwa kutia bidii katika uwanja wa mziki badla ya kuwa viruka njia. Kupitia kwa sauti nyororo kama kindanda wameweza kuwavutia hata watalii kuitembelea nchi yetu na kutuachia pesa za kigeni. Nawahimiza wengi kama iwezekanavyo wajaribu bahati yao.....jambo hili linajuza sana katika ujenzi wa taifa imara.

Katika kitengo cha spoti, waawake wamejizatiti vilivyo na kutokea wanashati kweli kweli. Wamezika katika kaburi la sahai kuwa mchezo ni uawala wa wanaume. Kwa mfano katika michezo ya Olimpiki au jimuiya ya madola timu zetu za wanawake zimefanya vyema na kurudi nyumbani na nishani chungu nzima. Kwa wale wasiohusika katika michezo ningewasihi wajikakamue kisabuni basi wasiwaonee kijicho wenzao, kwani nyote ya mwenzio usilalie mlango wazi. I wapo tutazingatia ufanisi katika michezo, taifa hili halina budi kuendeleza uchumi wake.

Kwa kukunja jamvi, ningetaka kusisitiza kuwa hata ingawa jitihada haziondoi kudura, wanawake wetu wamefanya bidii za kutosha na inafaa wapewe nafasi sawa na wanaume katika ujenzi wa taifa.

Ningewahimiza wanaume wasiwe na kinyongo dhidi ya wamawake bali chanda chema huvishwa pete. Huu ndio wito wangu na kama tujuavyo kuro hasemi uongo na mbiu ya mgambo ikilia haikosi ina jambo.

MASWALI

- a) Fafanua dhima ya mwanamke kulingana na makala haya. (maneno 70-80) (al.6)

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3. MATUMIZI YA LUGHA

- a) Andika maneno yanayoafiki maelezo haya: (al.2)
 - i. Nazali ya midomoni, kipasuo sighuna cha midomoni, kiyeyusho, irabu ya chini kati.

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- ii. Kipua ghuna cha kaaka laini, irabu ya chini kati, kimadende ghuna cha ufizi, irabu ya chini kati.

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- b) Ainisha mofimu kwa kurejelea majukumu ya kisarufi katika neno hili. (al.3)
Alijipelekea

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c) Tunga sentensi ya swali ukitumia kiwakilishi nafsi ambata nafsi ya pili wingi. (al.2)

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d) Kwa kutolea mifano, andika miundo miwili ya ngeli **ya LI-YA**. (al.2)

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e) Andika sentensi ifuatayo kwa udogo wingi. (al.2)
Mtoto mkaidi aliiba kitabu cha mwenzake.

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f) Tunga sentensi ukitumia nomino dhahania katika wakati ujao hali ya kuendelea. (al.2)

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g) Andika katika usemi halisi mtindo wa kitamthilia. (al.4)
Khaemba Ouma alitaka kujua ni kwa nini Wandera Otieno alipenda Hisabati, Wandera Otieno akamweleza alipenda Hisabati kwa kuwa babake alikuwa mwalimu wa somo hilo.



k) Yakinisha katika umoja. (al.1)
Msipofanya bidii hamtapita mtihani.

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l) Tunga sentensi ukitumia ka kuonyesha mfulilizo wa matukio ya matukio ya wakati
uliopita.(al.2)

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m)Unda sentensi changamano kutokana na tungo zifuatazo: (al.2)
Mtoto alikuja nyumbani jana.
Mtoto ndiye huyu.

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n) Jibu swali kulingana na agizo. (al.2)
Halima alimbebea mwalimu mzigo kwa gari. (Anza kwa yambwa tendewa)

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o) Changanua sentensi ifuatayo kwa kielezo cha visaduku. (al.5)
Kile kizuri kilikuwa kikitumika ba baba Yule

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p) Tunatumia shabaha tunapofurahishwa na jambo.....tunapokula
kiapo na yarabil..... (al.2)

q) Andika maana ya maneno yafuatayo: (al.2)
i. Kula kalenda

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ii. Kula njaro.

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4. ISIMUJAMII. (al.10)

Janga tandavu la korona limeathiri maisha ya kila mtu duniani, umepewa nafasi kama muuguzi kuzungumza na wanafunzi kuhusu suala hii. Andika sifa za lugha utakayotumia katika hotuba yako.

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Jina :

Nambari Ya Usajil : Tarehe:.....Sahihi:.....

Shule:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

KIDATO CHA NNE

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KARATASI YA TATU

MUDA: SAA 2 ½

Kiswahili

Karatasi ya 3

Fasihi

Muda: 2 ½

MAAGIZO

m) Andika jina lako, nambari ya mtihani na tarehe katika karatasi ya

n) Swali la kwanza ni la **lazima**.

o) Maswali mengine **matatu** yachaguliwe kutoka sehemu nne zilizobaki;, riwaya,hadithi fupi na fasihi simulizi,

p) Usijibu maswali **mawili** kutoka sehemu **moja**.

q) Majibu yote lazima yaandikwe katika **lugha ya Kiswahili**.

r) Karatasi hii ina kurasa 6 zilizopigwa chapa. Hakikisha kuwa kurasa zote zimo.

SWALI	1	2	3	4	5	6	7	8	JUMLA
UPEO	20	20	20	20	20	20	20	20	80
ALAMA									
JUMLA									

SEHEMU YA A: TAMTHILIA - KIGOGO P. KEA (alama 20) SWALI LA LAZIMA

5.

“Lisilowezekana ni kukama ndume.....hujafa hujambika.”

- a) Eleza muktadha wa dondoo hili. (al.4)
- b) Taja na ueleze mbinu moja ya lugha inayojitokeza katika dondoo hili. (al.2)
- c) Fafanua umuhimu wa msemaji wa dondoo hili. (al.4)
- d) Jadili mbinu zozote kumi walizozitumia wanasagamoyo kujikomboa kutoka uongozi dhalimu katika jimbo la Sagamoyo. (al.10)

SEHEMU YA B: (CHOZ LA HERI)- K. MATEI

Jibu swali la 2 au la 3

6. Riwaya

“Tumeendelea kuwakwaza akina dada huku tukididimiza nguzo ya jamii yetu. Na kuwe huko kumtoa mekoni, lakini hili la kumpa jukumu la kuiongoza jamii nzima! Itakuwa kukivisha kichwa cha kuku kilemba.”

- a) Eleza muktadha wa dondoo hili. (al.4)
 - b) Eleza mifano **mitatu** ya kukwezwa kwa mwanamke na **mitatu** ya kutwazwa kwa mwamume kama anavyodai nafsineni. (al.6)
 - c) Jadili umuhimu wa mandhari katika kujenga riwaya hii kwa kurejelea shule ya Tangamano. (al.10)
7. “Ukiukaji wa haki za kibinadamu ni jambo la kawaida katika jamii ya Chozi la Heri. Jadili. (al.10)

SEHEMU YA C: (TUMBO LISILOSHIBA)- ALIFA CHOKOCHO

(Jibu swali la 4 au 5)

8. a) **MAME BAKARI**- Mohammed Khelef Chassany

“Ubahimu naotendewa mwanamke unakuwa na athari mbaya kwake.” Jadili ukweli wa kauli hii ukirejelea hadithi ya Mame Bakari. (al.10)

b) **MASHARTI YA KISASA** – Alifa Chokocho

“Hatimaye Dadi ilimbidi kuusikitikia ule uzuri ambao unapeleka kwingine wala si kwake. Na tazama ile kanzu jinsi ilivyomfika magotini kidada. Tazama anavyoiacha wazi ile miguu na miundi yake yenye kuvutia. Ndiyo, hata yeye Dadi akifuatana na mkewe Kidawa, wakipitana njiani wanawake wanaovaa hivyo huwatambulia macho. Kwa nini basi wanaume wengine wasimtumbulie macho mke wake yeye? Na Kidawa akimwona mumewe anawatumbulia macho wanawake hubwata kwa kimombo “Stop your gaze!” Na yeye humwuliza, ndio anasema nini? Na Kidawa hujibu, “Acha kudolea wanawake macho. Kwa nini wasiwe na uhuru wa kuvaa wanavyopenda? Au huelewi wanawake wana uhuru? “My dress my choice!” Lakini yeye hatimaye hujiuliza: Itakuwaje dunia iwapo watu wote (sio wanawake tu) watavaa wanavyopenda?.

- i. Jadili aina nne za taswira zinazojitkeza katika dondo hili. (al.4)
ii. Kando na taswira, tambua mbinu sita za kimtindo katika dondoo. (al.6)

Au

9. Ukirejelea hadithi zifuatazo kwenye Diwani, eleza jinsi maudhui ya umaskini yanavyojitokeza. (al.20)
i. Tumbo Lisiloshiba.
ii. Mapenzi ya kifaurongo.
iii. Ndoto ya mashaka.
iv. Mtihani wa maisha.

10. SEHEMU YA D: (USHAIRI)

Jibu swali la 6 au 7

a) Shairi la kwanza

Soma shairi lifuatalo kisha ujibu maswali.

Maendeleo ya umma
Sio vitu maghalani
Kama tele vimesaki
Lakini havishikiki
Ama havikamatiki
Bei juu

Maendeleo ya umma
Sio vitu gulioni
Kuviona madukani
Kuvishika mikononi
Na huku wavitamani
Kama tama ya fisi
Kuvipata ng'o

Maendeleo ya umma
Sio vitu shubakani
Dhiki ni kwa mafakiri
Nafuu kwa mafakiri
Ni wao tu washitiri
Huo ni uistimari
Lo! Warudia

Maendeleo ya umma
Ni vitu kumilikiwa
Na wanyonge kupatiwa
Kwa bei kuzingatiwa
Bila ya kudhulumiwa
Na hata kuhadaiwa
Hiyo ni haki.

Maendeleo ya umma
Dola kudhibiti vitu
Vijapo nchini mwetu
Na kuwauzia watu
Toka nguo na sapatu
Pasibakishiwe na kitu
Huo usawa.

Maendeleo ya umma
Watu kuwa na kauli
Katika zao shughuli
Vikaoni kujadili
Na mwisho kuyakubali
Maamuzi halali
Udikteta la.

Maendeleo ya umma
Watu kuwa waungwana
Vijakazi na watwana
Nchini kuwa hakuna
Wote kuheshimiana
Wazee hata vijana.

Maswali

- a) Eleza dhamira ya shairi hili. (al.2)
- b) Baininsha tamathali mbili za usemi katika shairi hili. (al.2)
- c) Eleza umuhimu tatu wa usambamba katika shairi hili. (al.2)
- d) Onyesha jinsi maendeleo ya umma ulivyo kinaya. (al.2)
- e) Eleza mambo ambayo mshairi nachukulia kuwa maendelo halisi ya umma. (al.4)
- f) Tambua matumizi ya mstari mishata kwa kutolea mifano. (al.2)
- g) Bainisha nafsi neni katika shairi hili. (al.1)
- h) Fafanua toni ya shairi hili. (al.1)
- i) Andika ubeti wanne kwa lugha nathari. (al.4)

Au

11. Shairi la pili

Joseph Kiponda : Taifa ni Ushuru

Lau kama ingakuwa, madhali tuna uhuru
Watu kodi kutotowa, na kuifanya kufuru
Vije nchi ingakuwa, taifa bila ndururu
Taifa halingakuwa, bilashi bila ushuru

Hivi taifa kumea, nakuendelea mbele
Kwamba lajitegemea, haliwategei wale
Yataka kujitolea, ushuru bila kelele
Taifa halingakuwa, bilashi bila ushuru

Wafanyikazi wa umma, mfano mwema walimu
Wauguzi mahashuma, daktari wahadimu
Bila hizi darahima, vipi wangalihudumu?
Taifa halingakuwa, bilashi bila ushuru

Si vyema kuombaomba, kwa wageni kila mara
Huwa twajifunga kamba, na kujitia izara
Adha zinapotukumba, kujitegemea bora
Taifa halingakuwa, bilashi bila ushuru.

Miradi ya maendeleo, yahitaji darahima
Ndo tufikie upeo, ulio dunia nzima
Wadogo na wenye vyeo, bila kodi tutakwama
Taifa halingakuwa, bilashi bila ushuru

Ushuru si kwa wanyonge, wasokuwa na uwezo
Watozwe hata wabunge, na wengine wenye nazo
Yeyote asijitenge, kodi akalipa bezu
Taifa halingakuwa, bilashi bila ushuru

Kwetu kutoa ushuru, ndiko kujitegemea
Pasiwepo na udhuru, sio wa kuelea
Huwa ni kama kiguru, asenao kutembea
Taifa halingakuwa, bilashi bila ushuru.

Maswali

- a) Ujumbe unaowasilishwa katika shairi hili, una hadhira legwa. Zitaje. (al.3)
- b) Kwa kutolea mifano, eleza aina tatu za idhini ya kishairi alizozitumia mshairi. (al.3)
- c) Huku ukitoa mifano, taja aina tatu za takriri zinazojitokeza katika utungo huu. (al.3)
- d) Fafanua bahari zinazojitokeza katika shairi hili. (al.4)

- e) Andika ubeti wa nne katika lugha nathari. (al.4)
f) Taja mbinu tatu za kifani zilizotumika katika shairi hili. (al.3)

12. **SEHEMU YA E:(FASIHI SIMULIZI)**

Soma kifungu kifutacho kisha ujibu maswali yanayofata.

Basi kizito Matukio alipewa Cheo kikubwa kutokana na uchapakazi wake. Shirika alilokuwa akifanya kazi likawa na matumaini makubwa. Kizito naye badala ya kuchapa kazi akawa anajigamba na kujitapa mitaani. “Ukubwa ninaujua miye. Mimi ndiye Kizito hapa. Kizito Mzito mimi, akaringa. Akawadharau akina Wanjiku. Amina na Shikuku. Akajitosa kwenye raha bila kujali na kuvaa suti nzito alizoagizia kwa fedha za shirika. Muda si muda shirika likaingia hasara. Mwishowe ametimuliwa kazini na wazito wenyewe. Ameondoka na mkoba mzito wa madeni na fedheha: nguo sasa anavaa za matambara mazito! Jamani uzito unakowapeleka wazito.

MASWALI

- a) Onyesha kwa nini kipera hiki ni soga (al.4)
b) Fafanua vipengele viwili vya kimtindo vilivyotumika katika utungo huu. (al.2)
c) Eleza matatizo utakayokumbana nayo nyanjani ukikusanya kazi ya kipera hiki (al.4)
d) Taja mifano mitatu ya ngomezi za kisasa (al.3)
e) Eleza hasara nne za miviga? (al.4)
f) Fafanua umuhimu wa misimu ya kisasa. (al.3)

Name:

School:

Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

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MATHEMATICS ALT. A

PAPER 1

TIME: 2 ½ HOURS

INSTRUCTIONS TO THE CANDIDATES

- a) Write your **name** and **Random no.** the spaces provided above.
- b) Sign and write **date** of examination in the spaces provided above.
- c) This paper consists of **two** sections; **Section I** and **Section II**.
- d) Answer **All** questions in **Section I** and only **Five** questions from **section II**
- e) **All** answers and working **must** be written on the question paper in the spaces provided below each
- f) question.
- g) Show all the steps in your calculations giving answers at each stage in the spaces provided below each
- h) question.
- i) Marks may be given for correct working even if the answer is wrong.
- j) Non-programmable silent electronic calculators and KNEC Mathematical tables may be used except where stated otherwise.
- k) **This paper consists of 16 printed pages. Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.**
- m) Candidates should answer questions in **English**.

For examiner's use only.

Section I

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

Section II

17	18	19	20	21	22	23	24	Total

GRAND TOTAL

SECTION I (50 MARKS)

Attempt all questions in this section

1. Evaluate $\frac{-4 \text{ of } (-4 + -5 \div 15) + -3 - 4 \div 2}{84 \div -7 + 3 - -5}$ (3 mks)

2. Simplify $\frac{9x^2 - 1}{3x^2 + 2x + 1}$ (1 mk)

3. Evaluate without using a calculator or mathematical table leaving your answers as a simplified fraction. (2 mks)

$$\frac{\frac{4}{11} \text{ of } \frac{3}{4} - \frac{1}{20}}{\left(3 + \frac{1}{3}\right) \div \left(1 + \frac{1}{10}\right)}$$

4. A poultry farmer has twenty times as many hens as turkey and three quarters as many ducks as turkeys.

(a) If there are t , turkeys, write down a simplified expression in terms of t for the total number of birds on the farm. (1 mk)

(b) Give that he has 72 ducks, calculate as a percentage the sum of turkeys and ducks to the number of hens in the farm. (2 mks)

5. Use tables of reciprocals only to work out. (3 mks)

$$\frac{5}{0.0396} + \frac{12}{0.593}$$

6. A straight lines passes through points A(-2,6) and B(4, 2).

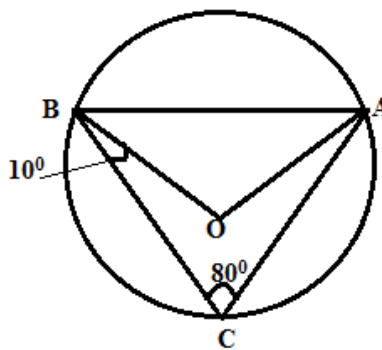
(a) M is the midpoint of line AB. find the coordinates of N. (2 mks)

(b) Determine the equation of a straight line passing through point M and is perpendicular to AB. (2 mks)

7. An open right circular core has radius of 5cm and a perpendicular height of 12cm. Calculate the surface area of the core. (take $\pi=3.142$). (3 mks)

8. Moraa spends a total of sh. 970 on buying 3 text books and 5 pens. if had bought 2 textbooks and 8 pens she would have saved sh. 90. Find the cost of one textbook. (3 mks)

9. In the figure below O is the centre of the circle. $\angle BCA = 80^\circ$ and $\angle CBO = 10^\circ$. Determine the size of $\angle CAB$. (3 mks)



10. The table below shows speeds of vehicles measured to the nearest 10km/h as they passed a certain point.

Speed(km/h)	30	40	50	60	70	80	90	100	110
Frequency	1	4	9	14	38	47	51	32	4

a) Calculate the mean speed of vehicles (3 marks)

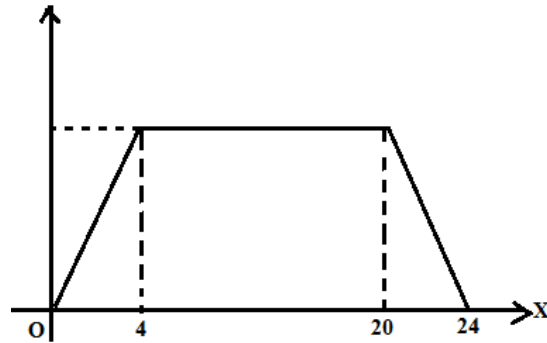
b) State the modal speed (1mark)

11. Find the of x if. (3 mks)

$$\left(\frac{27}{8}\right)^{x+7} = \left(\frac{4}{9}\right)^{-3x}$$

12. The image of a point K(1,2) after translation is K¹ (-1,2). what is the coordinate of the point R whose image is R¹ (-3,3) after undergoing the same translation. (3 mks)

13. The figure below is a velocity time graph for a car.



(a) Find the total distance travelled by the car (2 mks)

(b) Calculate the deceleration of the car. (2 mks)

14. Security light poles have been erected along both sides of a street in Kisii town. The poles are 50m apart along the left hand side of the road while they are 80m apart along the right hand side. At one end of the road the poles are directly opposite each other. How many poles will be erected by time the poles are directly opposite each other at end of the road? (3 mks)

15. The exterior angle of a regular polygon is equal to one third of the interior angle.
Calculate the number of sides of the polygon. (3 mks)

16. Solve the following inequality and state the integral values

$$\frac{1}{2}(24 - 4x) > 6\left(3x - \frac{4}{3}\right) \geq -\frac{2}{3}(42 + 3x) \quad (3 \text{ mks})$$

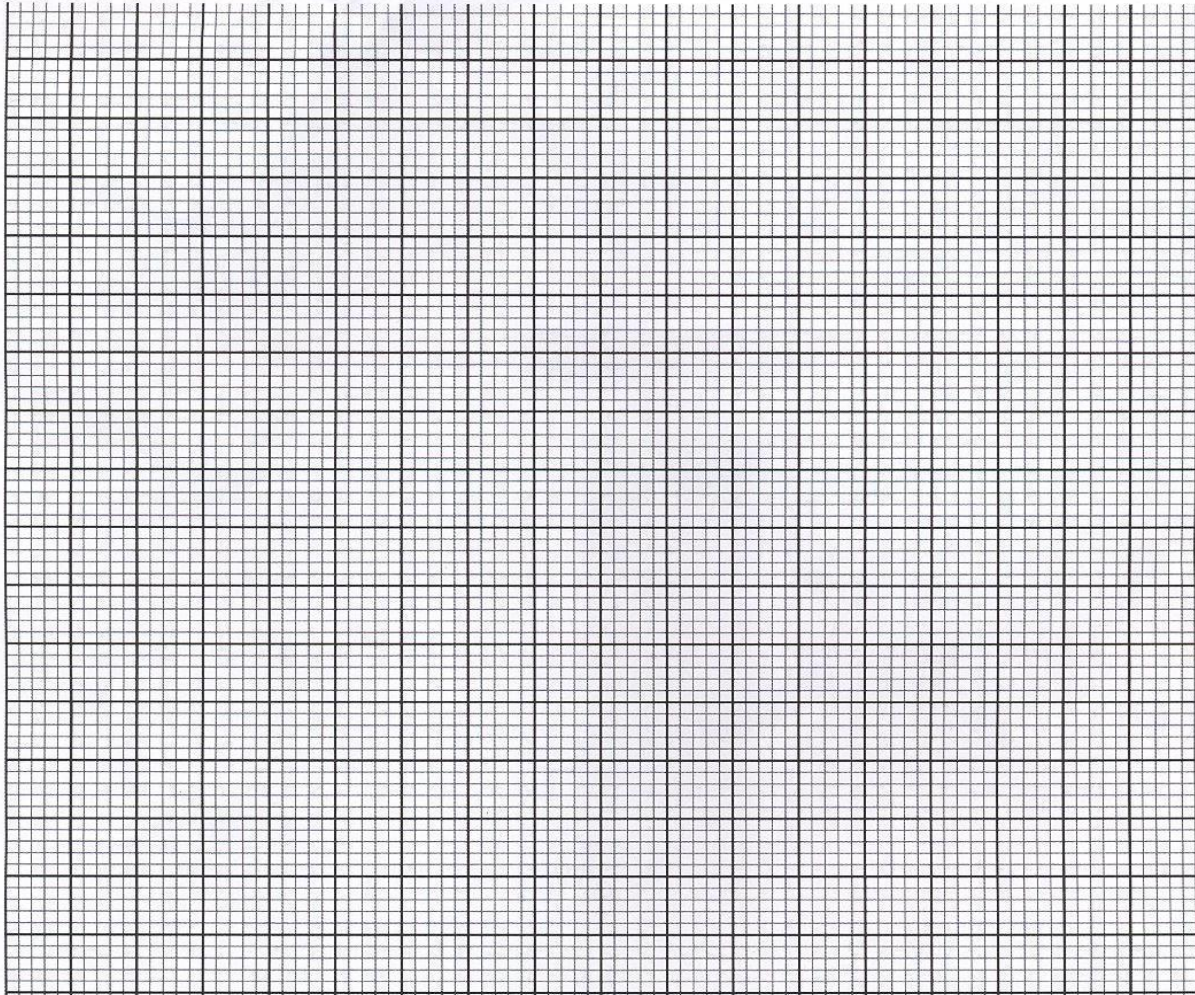
SECTION II**Attempt only FIVE questions from this section**17. (a) Complete the table below for the function $y=7+2x-2x^2$ for the range $-3 \leq x \leq 4$. (2 marks)

X	-3	-2	-1	0	1	2	3	4
$-2x^2$		-8	-2	0		-8	-18	
$2x$	-6	-4		0		4	6	
7	7	7	7	7	7	7	7	7
Y		-5		7		3	-5	

(b) (i) On the grid provided draw the graph of $y=7+2x-2x^2$. (3 marks)

Take the scale: 2 cm to represent 1 unit on x- axis

1 cm to represent 1 unit on y- axis



(ii) Use your graph to estimate the roots of $7 + 2x - 2x^2 = 0$. (1 mark)

(c) (i) By drawing a suitable line on the same axes in (b) above solve the equation

$$9 + 5x - 2x^2 = 0 \quad (3\text{marks})$$

(ii) State the co-ordinates of the turning point .(1 mark)

18. Paul is a sales executive earning sh 20,000 and a commission of 8% for the sales in excess of 100,000. In January 2014 he earned a total of 48000 in salaries and commissions.

(a) Determine the amount of sales he made in that month. (4 mks)

(b) If the total sales in the month of February and March increased by 18% and then dropped by 25% respectively. Calculate.

(i) Paul's commission in the month of February. (3 mks)

(b) If the total earnings in the month of march. (3 mks)

19. Two tanks are similar in shape. The capacity of the tanks are 1,000,000 litres and 512,000 litres respectively.

(a) Find the height of the smaller tank if the larger one is 300cm tall. (5 mks)

(b) Calculate the surface area of the tank if the smaller one has a surface area of 768cm^2 (3 mks)

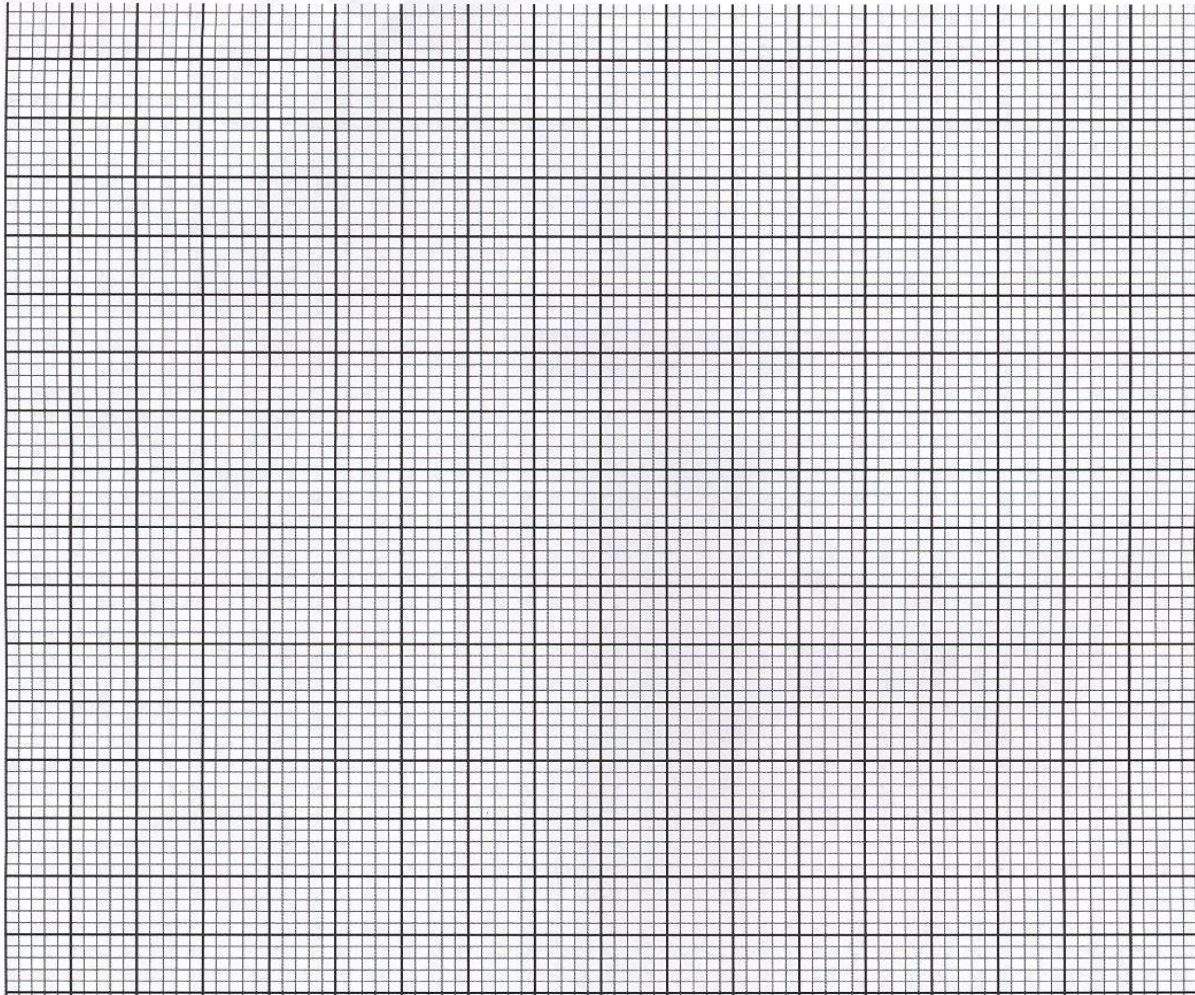
(c) Calculate the mass of the larger tank if the mass of the larger one is 800kg. (2 mks)

20. The vertices of a triangle ABC are A(2,5) B(4,3) and C(2,3). **P** represents half-turn about the origin.

(a) Draw triangle ABC and $A^1B^1C^1$ under **P**. (4 mks)

(b) **T** represents a reflection in the line $x = 0$ and **K** represents a translation $\begin{pmatrix} 0 \\ -2 \end{pmatrix}$.

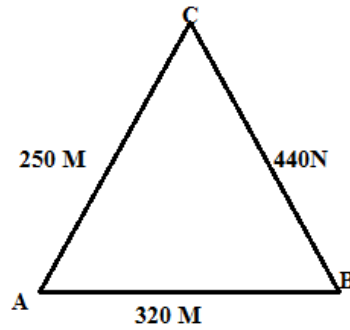
Find the coordinates of $A^{11}B^{11}$ and C^{11} under **T** and $A^{111}B^{111}C^{111}$ under **K**.
Hence, draw triangle $A^{11}B^{11}C^{11}$.
(4 mks)



(c) Find the area of the triangle $A^{11}B^{11}C^{11}$.

(2 mks)

21. Ombati owns a farm that is triangular in shape as shown below.



- (a) Calculate the size angle BAC. (2 mks)
- (b) Find the area of the farm in hectares. (3 mks)
- (c) Ombati wishes to irrigate his farm using a sprinkler machine in the farm such that it is equidistant from points A, B and C.

- (i) The sprinkler rotates in a circular motion so that the maximum point reached by the water jets is the vertices A, B and C. Calculate the area outside the farm that will be irrigated. (5 mks)

22. Transline bus left Nairobi at 8.00 am and travelled Kisii at an average speed of 80km/h. A car left Kisii at 3.30 am and travelled to Nairobi at an average speed of 120km/h. Given that the distance between Nairobi and Kisii is 400km, Calculate.

- (a) The time the car arrived in arrived in Nairobi. (3 mks)

- (b) The time the two vehicles met. (4 mks)

(c) The distance from Nairobi to the meeting point. (2 mks)

(d) The distance of the bus from Kisii when the car arrived in Nairobi. (2 mks)

23. Town B is 102km on the bearing of 122° from town A. Town C is 94 km on bearing of 062° from B. Town D is on a bearing of 073° from A and 336° from C.

(a) Using a scale of 1cm to represent 20km, draw a scale diagram to show the relative positions of town A, B, C and D. (4 mks)

- (b) Using your diagram, determine.
- (i) The bearing B from D. (1 mk)

 - (ii) The bearing of A from C. (1 mk)

 - (iii) The distance from town A to D. (1 mk)

 - (iv) The distance from town B and D. (1 mk)

24. A particle moves along a straight line such that its displacement S metres from a given point is

$$S = t^3 - 5t^2 + 3t + 4 \text{ where } t \text{ is time in seconds. Find}$$

a) The displacement of the particle at $t = 5$ (2marks)

b) The velocity of the particle when $t = 5$ (3 marks)

c) The values of t when the particle is momentarily at rest (3 marks)

d) Acceleration of the particle when $t = 2$ (2marks)

Name:

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Index N.o: Date: Signature:

KENYA’S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS’ PREDICTION SERIES 3

121/2

MATHEMATICS ALT.A

Paper 2

Time: 2 ½ HOURS

INSTRUCTIONS TO THE CANDIDATES

7. Write your name and index number in the spaces provided above.
8. Sign and write the date of examination in the spaces provided above.
9. This paper consists of **TWO** sections; Section **I** and **II**.
10. Answer **ALL** the questions in sections **I** and **ONLY FIVE** questions from section **II**
11. Show all your steps in your calculations, giving your answers at each stage in the spaces provided below each question.
12. Marks may be given for correct working even if the answer is wrong.
13. Non – programmable silent electronic calculators and KNEC Mathematical tables may be used, except where stated otherwise.
14. Candidates should answer questions in **English**.

For Examiner’s Use Only

Section 1

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

4. Expand $(2 + 3x)^6$ up to the term in x^3 . Hence use your expansion to estimate $(2.09)^6$
(3mks)
5. Two quantities M and N are such that M varies partly as N and partly as the square of N. Determine the relationship between M and N given that when M is 1050, $N = 10$ and when $M = 2200$, $N = 20$.
(3mks)
6. A dealer has two types of grades of tea, A and B. Grade A costs shs. 140 per kg while grade B costs shs.160 per kg. If the dealer mixes A and B in the ratio 3:5 to make a brand of tea which he sells at shs.180 per kg, calculate his percentage profit.
(3mks)

7. The position vectors of A and B are given as $a = 2i - 3j + 4k$ and $b = -2i - j + 2k$ respectively. Find to 2 decimal places, the length of the vector \overrightarrow{AB} . (3mks)

8. Calculate the quartile deviation in 18, 9, 14, 20, 23, 12, 16 (3mks)

9. Find the equation of a circle whose radius is 0.75 units and centre coordinates (0.75, -0.5). Leave your answer in the form;
 $x^2 + y^2 + ax + by + c = 0$ (3mks)

10. Solve for the exact value of x in the equation.

(3mks)

$$2\log_{10}x + \log_{10}5 = 1 + 2\log_{10}4$$

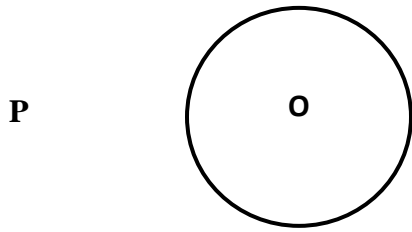
11. A plane leaves an airport A (38.5°N , 37.05°W) and flies due North to a point B on latitude 52°N . The plane then flies due East to a point C 2400km from B. Determine the position of C. (Given that the radius of the earth is 6371km)

(3mks)

12. Evaluate $\int_{-1}^3 (2x^2 - 3x - 14)dx$

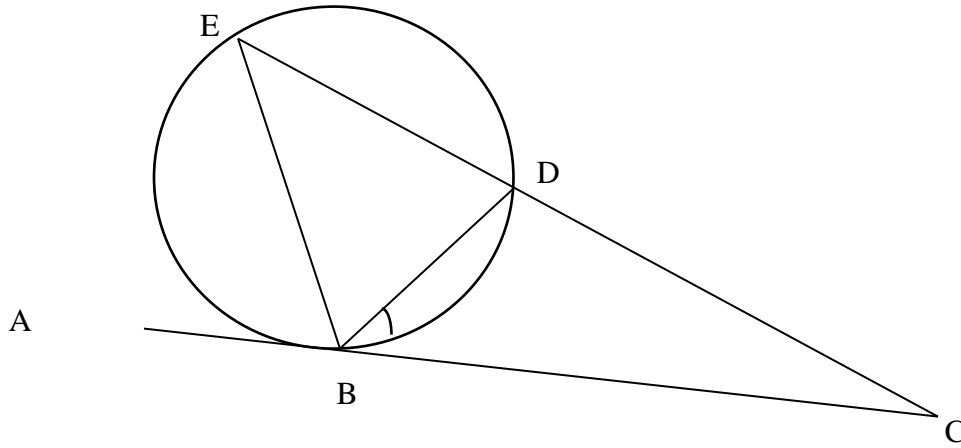
(3mks)

13. Using a ruler and a pair of compass only, construct common tangents from the point P to the circle below. (3mks)



14. Given that $\frac{3 + 3\sqrt{5}}{3 + \sqrt{5}} \cdot \frac{\quad}{3 - \sqrt{5}} = a + b\sqrt{5}$. Find the values of a and b. (3mks)

15. In the figure below angle $CBD = 37^\circ$, angle $BCD = 20^\circ$ and ABC is a tangent to the circle at B .



(a) Find:

(i) Angle BED (2mks)

(ii) Angle ABE (2mks)

16. A transformation is represented by the matrix $\begin{bmatrix} 1 & 3 \\ 4 & 2 \end{bmatrix}$. This transformation maps a triangle

ABC of the area 12.5cm^2 onto another triangle ABC of the area 12.5cm^2 onto another triangle $A^1B^1C^1$. Find the area of triangle $A^1B^1C^1$. (3mks)

SECTION II(50marks)

Answer ANY FIVE questions in this section in the spaces provided

17. A transformation represented by matrix $\begin{bmatrix} 2 & 1 \\ 1 & -2 \end{bmatrix}$ maps $A(0,0)$, $B(2,0)$, $C(2,3)$ and $D(0,3)$

Onto $A^1B^1C^1$ and D^1 respectively

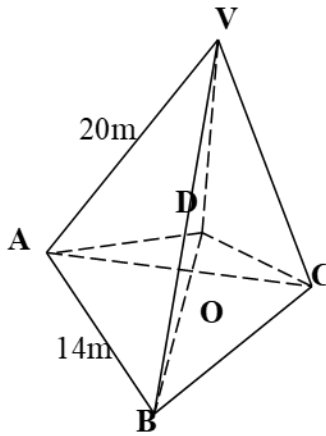
a) Draw $ABCD$ and its image $A^1B^1C^1D^1$ (4mks)

b) A transformation represented by $\begin{bmatrix} 0 & -1 \\ -1 & 0 \end{bmatrix}$ maps $A^1B^1C^1D^1$ on $A^{11}B^{11}C^{11}D^{11}$.

Plot $A^{11}B^{11}C^{11}D^{11}$ on the same graph. (3mks)

- c) Determine the matrix of a single transformation that maps $A^{11}B^{11}C^{11}D^{11}$ onto $ABCD$.
(3mks)

18. The diagram below shows a right pyramid with a square base $ABCD$ and vertex V . O is the centre of the base. $AB = 14m$, $VA = 20m$ and N is the midpoint of BC .



- Find;
- a) The lengths of BO , VO and VN (3mks)
- b) The angle between VO and plane VBC (3mks)

c) The angle between **VB** and base **ABCD** (2mks)

d) The angle between **VDC** and **VBC** (2mks)

19. The table below shows the distribution of marks scored in a test by standard 8 pupils in one school.

Marks	No. of pupils
30 – 34	1
35 – 39	5
40 – 44	10
45 – 49	10
50 – 54	19
55 – 59	20
60 – 64	20
65 – 69	8
70 – 74	4
70 – 79	3

Using 57 as the assumed mean mark, calculate

(i) The actual mean for the grouped marks (3mks)

(ii) The 50th percentile (3mks)

(iii) The standard deviation of the marks (4mks)

20. (a) Complete the table for the function $y = \frac{1}{2} \sin 2x$, where $0^\circ \leq x \leq 360^\circ$. (2mks)

x	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°	360°
$2x$	0°	60°	120°	180°	240°	300°	360°	420°	480°	540°	600°	660°	720°
$\sin 2x$	0°	0.866			0°				0.866				
$y = \frac{1}{2} \sin 2x$	0°	0.433			0°								

(b) On the grid provided, draw the graph of the function $y = \frac{1}{2} \sin 2x$ for $0^\circ \leq x \leq 360^\circ$ using the scale 1cm for 30° on the horizontal axis and 4cm for 1 unit of y axis. (3mks)

(c) Use your graph to determine the amplitude and period of the function $y = \frac{1}{2} \sin 2x$. (2mks)

(d) Use the graph to solve

(i) $\frac{1}{2} \sin 2x^0 = 0$ (1mk)

(ii) $\frac{1}{2} \sin 2x^0 - 0.5 = 0$ (2mks)

21. Income tax rate were charged as follows in a given year.

Income in ksh. p.m	Rate of tax in each sh.
1 – 11, 180	10%
11, 181, - 21, 714	15%
21, 715 – 32, 248	20%
32, 249 – 42, 781	25%
42, 782 and above	30%

A teacher earns a basic salary of Ksh. 48, 000. He is housed by the employer and pays a rent of Ksh. 3,000 per month. His allowances are: Commuter Ksh. 2, 500 and medical Ksh. 3,500. He is entitled to a family relief of Ksh. 1,648 per month.

Determine his:

a) Taxable income per month (2mks)

b) Net tax per month (4mks)

c) In addition the following deductions are also made

NHIF Ksh. 1,250

WCPS Ksh. 1,200

Co – operative shares Ksh. 3,000

Calculate the net salary. (3mks)

22. (a) The first term of an Arithmetic progression (AP) is 2. The sum of the first 8 terms of the AP is 156

(i) Find the common difference of the AP (2mks)

(ii) Given that the sum of the first n terms of the AP is 416, find n (2mks)

- (b) The 3rd, 5th and 8th terms of another AP form the first three terms of a Geometric Progression (GP). If the common difference of the AP is 3, find;
- (i) The first term of the GP; (4mks)

- (ii) The sum of the first 9 terms of the GP, to 4 significant figures. (2mks)

23. A married couple intends to have 3 children. They consult an expert who tells them that the probability of a male birth is 0.55.
- (a) Draw a tree diagram to represent this occurrence (2mks)

(b) Find the probability that

(i) All the three children will be female (2mks)

(ii) At least a male is born (2mks)

(iii) At least 2 will be females, giving your answer to 3 s.f. (4mks)

24. A trader is required to supply two types of sweaters, type **A** and type **B**. the total number of sweaters must not be more than 400. He has to supply more of type **A** than type **B** sweaters. However the number of type **A** sweaters must not be more than 300 and the number of type

Bsweaters must not be less than 80. Let **x** be the number of type **A** sweaters and **y** be the number of type **B** sweaters.

(a) Write down in terms of **x** and **y** all the linear inequalities representing the information above. (4mks)

(b) On the grid provided, draw the inequalities and shade the unwanted regions.(4mks)

(c) The profits were as follows;

Type A: sh. 600 per sweater

Type B: sh. 400 per sweater

(i) Use the graph to determine the number of sweaters of each type that he should make to maximize the profit. (1mk)

(ii) Calculate the maximum possible profit (1mk)

Name:

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KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

232/1

PHYSICS

PAPER ONE

TIME: 2HRS

INSTRUCTIONS

- Write your name and index number in the spaces provided above
- The paper consists of two sections, sections **A** and **B**
- Answer all questions in section **A** and **B** in the spaces provided below each question
- All answers and working must be clearly shown, marks may be awarded for correct steps even if the answers are wrong
- Mathematical tables and silent electronic calculators may be used
- Take $g=10\text{m/s}^2$

FOR EXAMINER'S USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1-9	25	
B	10	12	
	11	12	
	12	10	
	13	12	
	14	12	
		19	
	TOTAL	80	

SECTION A (25 MARKS)

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

1. The figure below shows part of a vernier calipers when the jaws are closed without an object between the jaws.

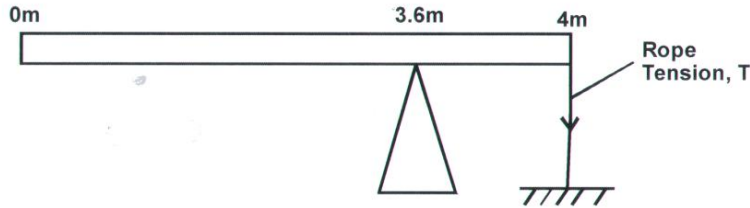


- a) State the error of the vernier calipers. (1 mark)
-
-
-
- b) A student used the vernier calipers to measure the diameter of a test tube whose actual diameter was 2.13cm. What was the reading shown by the vernier calipers? (2 marks)

2. A certain solid of volume 60cm^3 displaces 20cm^3 of a liquid when floating. If the density of the liquid is 600kgm^{-3} , determine the density of the solid. (3 marks)

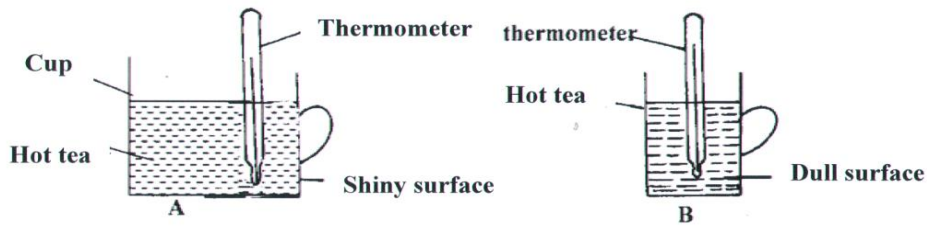
3. Name **two** forces that determine the shape of a liquid drop on a solid surface. (2 marks)
-
-
-
-

4. A uniform rod of length 4m and mass of 4kg is pivoted at 3.6m mark. The rod is held horizontal with a vertical rope at the 4m mark, as shown in figure 1 below.



Calculate the tension, T in the rope. (Take $g = 10\text{N/kg}$) (3 marks)

5. The diagram below shows two similar cups of tea containing equal volumes of hot tea at the same level. It was observed that the rate of cooling was the same in the two cups. Explain. (2 marks)



.....

.....

.....

.....

6. A turntable of radius 10cm is rotating at 43 revolutions per second. Determine the linear speed of a point on the circumference of the turntable. (3 marks)

7. A trolley of mass 0.5kg moving with a velocity of 1.2ms^{-1} collides inelastically with a second trolley of mass 1.5kg moving in the same direction with a velocity of 0.2ms^{-1} .

a) What is an inelastic collision?

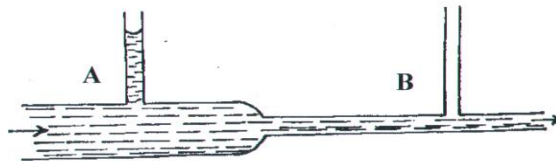
(1 mark)

.....

b) Determine the velocity of the trolleys after collision.

(2 marks)

8. Figure 2 shows water flowing through two sections A and B of a pipe having x-sectional areas of 8cm^2 and 2cm^2 respectively.



i) Mark the appropriate level of water in the thermometer B.

(1 mark)

ii) The velocity of water as it flows past the wider section of the pipe is 0.6ms^{-1} . Calculate the velocity at the narrower section.

(2 marks)

9. An electric motor raises a 60kg mass at a constant velocity. Calculate the power of the motor if it takes 30 seconds to raise the mass through a height of 25m . (take $g = 10\text{N/Kg}$)

(3 marks)

SECTION B 55 MARKS

10. A mechanic uses a pulley system with a velocity ratio of 6 to raise engine of weight 2800N through a vertical distance of 1.5. The mechanic pulls with an effort of 500N. Calculate:

i. The effort distance 2mks

ii. The work done by effort 2mks

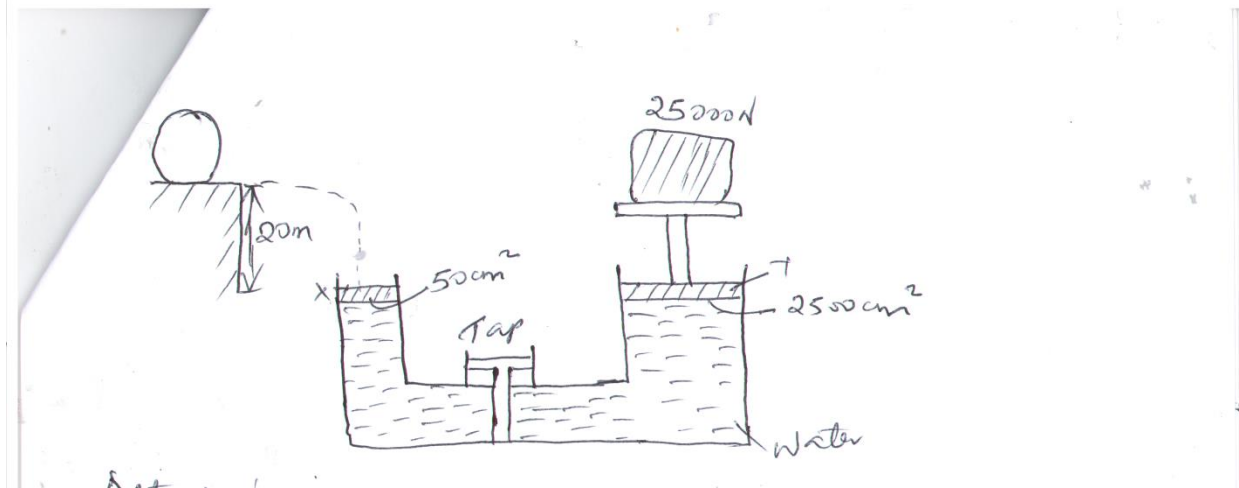
iii. The useful work done by the pulley machine 2mks

iv. The mechanical advantage of the machine 2mks

v. The efficiency of the machine 2mks

vi. State two reasons why the efficiency of a machine is always less than 100% 2mks

11. A ball of mass 50kg is thrown horizontally from the top of a cliff 20m high with a horizontal velocity of 20m/s as shown below. On reaching the ground it completely covers piston x of a hydraulic lift such that no water splashes out. The other piston y has a weight of 25000N. Assuming the top was opened when the ball struck the surface of water.



Determine:

- i. The time taken by the ball to strike the surface of water at piston x 3mks

- ii. The distance from the foot of the cliff to where the ball strikes the surface of water. 2mks

- iii. The vertical velocity with which it struck the surface of water at piston x 2mks

iv. The force with which the ball struck the surface of water 2mks

v. The distance moved by the 25000N load piston y if the level of water in piston x and piston y was initially the same. 3mks

12. Define latent heat of fusion 1mk

b. Water of mass 200g at a temperature of 60°C is put in a well legged copper calorimeter of mass 80g. A piece of ice at 0°C and mass 20g is placed in the calorimeter and the mixture stirred gently until all the ice melts. The final temperature of the mixture is then measured (latent heat of fusion of ice = $33400\text{Jkg}^{-1}\text{K}^{-1}$, S.H.C of water = $42000\text{Jkg}^{-1}\text{K}^{-1}$).

Determine:

i. The heat absorbed by the mercury ice at 0°C 2mks

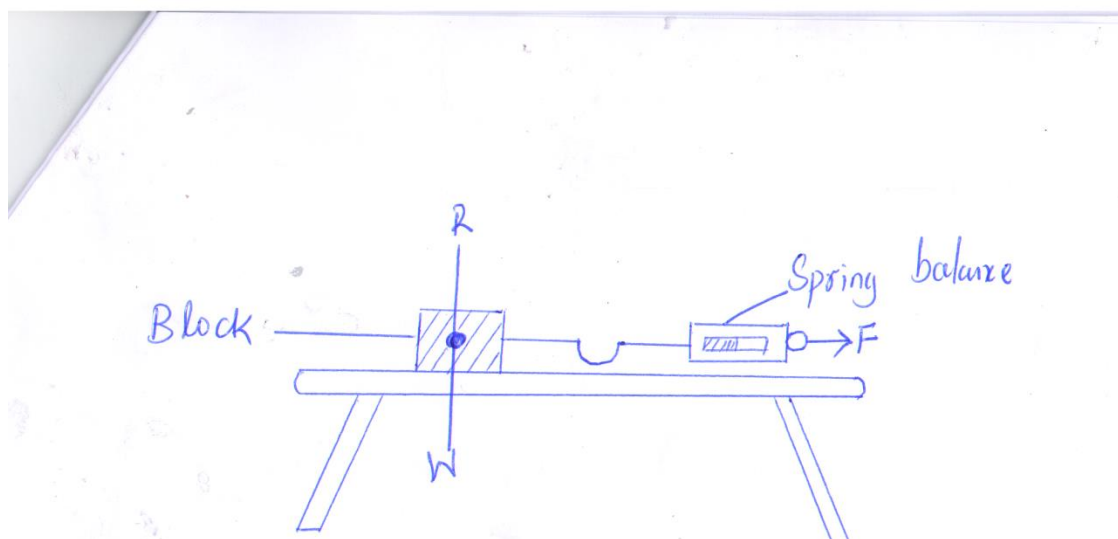
ii. The heat absorbed by the melted ice to rise to temperature T 2mks

iii. The heat lost by the warm water and the calorimeter (S.H.C of the calorimeter = $900\text{Jkg}^{-1}\text{K}^{-1}$. 2mks

iv. The final temperature T . of the mixture

3mks

13. Omukaga a form three physics student in a certain secondary school conducted an experiment purposed to establish relationship between normal reaction and frictional force between two surfaces. He measured the masses of the blocks of wood, then he hooked the blocks of wood on the spring balance and pulled each of them gradually in turn until the block just began to slide. He recorded the maximum reading registered by the spring balance for each of the block.



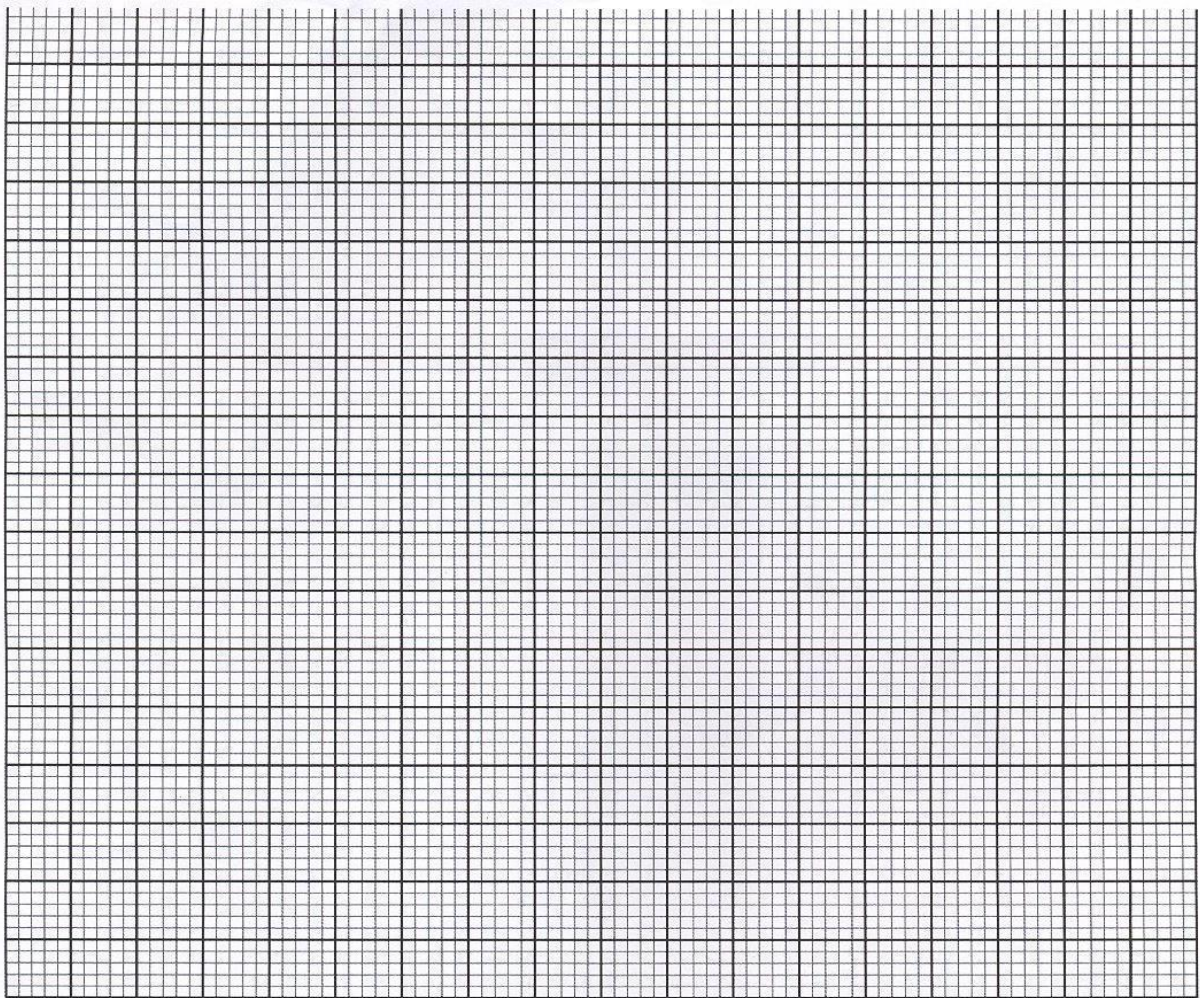
Mass of block(g)	Normal reaction, R	Spring balance reading
160		0.9
250		1.8
390		2.7
490		3.7
600		4.6
640		5.0

a. If $g = 9.807 \text{ N/kg}$ complete the table

2mks

b. Plot a graph of normal reactions R against spring balance reading

4mks



c. From the graph determine the gradient of the graph 3mks

d. What physical quantity does the gradient of the graph represent 1mk

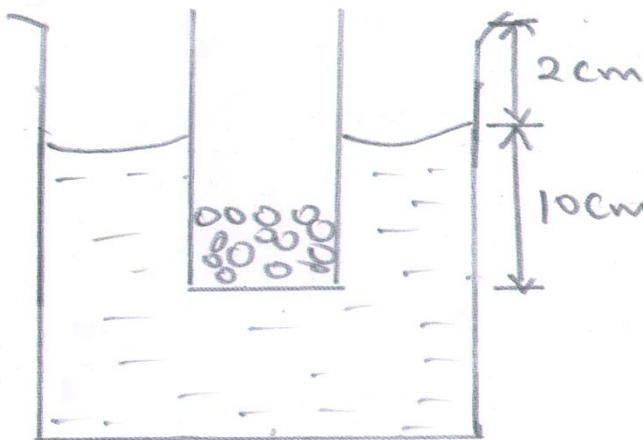
e. What is the type of friction measured by the spring balance? 1mk

14. a. State the law of floatation 1mk

.....
.....

b. A body weighs 40N in air, 30N when in water and 35N when in liquid. Find the relative density of liquid. 3mks

c. A simple hydrometer is set up with a test-tube of mass 10g and length 12cm with a flat base and partly fixed with load shorts. The test-tube has a uniform cross-sectional area 2.0cm^2 and 10cm of its length is under water as shown in the figure below.



- i. Taking the density of water as 1000kg/m^3 . Calculate the mass of the lead shots in the tube 3mks
- ii. The mass of the lead shots to be added if it has to displace an equal volume of a liquid of density 1.25g/cm^3 2mks

Name:

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Index N.o: Date: Signature:

KENYA'S TOP SCHOOLS

K.C.S.E 2022 EXAMINERS' PREDICTION SERIES 3

232/2

PHYSICS

Paper 2

(THEORY)

2 hours

INSTRUCTIONS TO CANDIDATES

1. Write your name, index number, admission number and sign in the spaces provided above.
2. This paper consists of **two** sections **A** and **B**.
3. Answer **all** the questions in sections **A** and **B** in the spaces provided.
4. All workings **must** be clearly shown where applicable.
5. All numerical answers must be expressed in decimal form
6. Non-programmable silent electronic calculators and KNEC Mathematical tables may be used where applicable.

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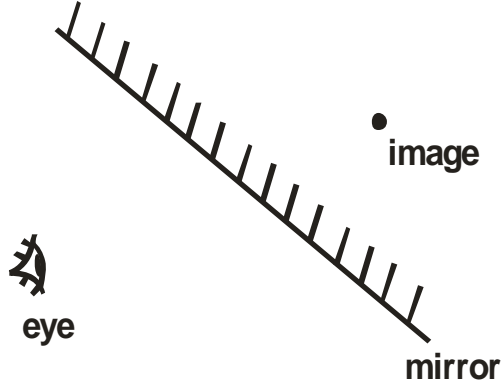
Section	Questions	Maximum Score	Candidate's Score
A	1 – 12	25	
B	13	12	
	14	11	
	15	13	
	16	12	
	17	07	
TOTAL		80	

This paper consists of 12 printed pages. Candidates should check the question paper to ensure that all the pages are printed as indicated and no question is missing.

SECTION A (25 MARKS)

Answer ALL the question in this section in the spaces provided

1. The figure below represents a point image formed by a mirror.



Sketch rays to show how the image is formed and seen by the eye. (2 mks)

2. State any **two** ways of increasing the size of an image formed by a pinhole camera. (2 mks)

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3. A leaf electroscope A is charged and placed on a bench. Another uncharged leaf electroscope B is placed on the same bench and moved close to A until the caps touch each other. **State** and **explain** what is likely to be observed on the leafs of A and B. (2 mks)

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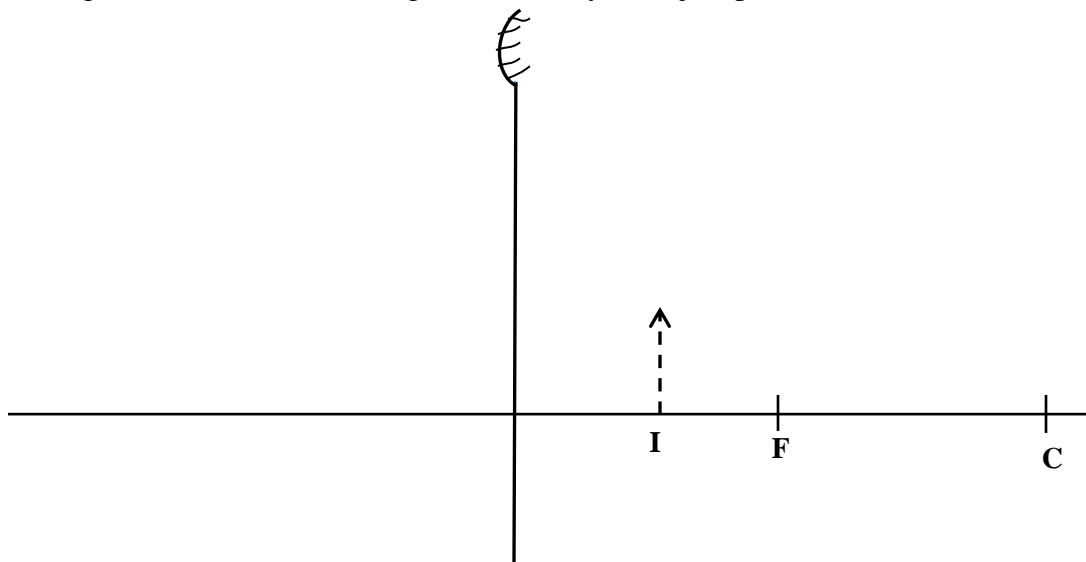
4. State **one** way in which polarization reduces the current produced by a simple cell. (1 mk)

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5. Using the domain theory of magnetism, explain why a bar magnet may lose its magnetism when hammered. (1 mk)

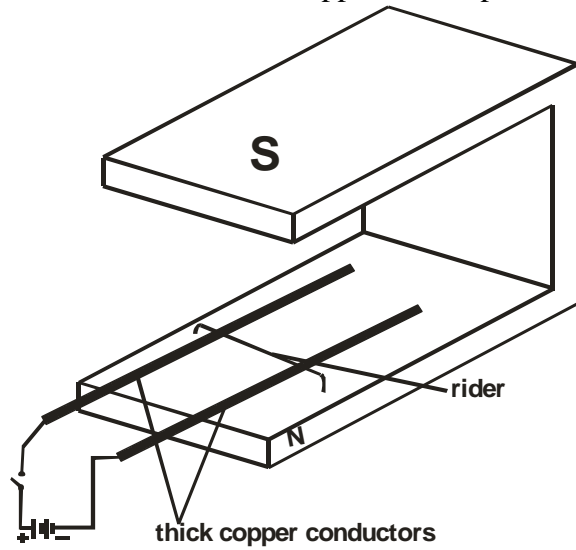
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6. The figure below shows an image, I formed by an object placed in front of a convex mirror.



On the same diagram, draw appropriate rays and locate the object. (2 mks)

7. The figure below shows two parallel thick copper conductors connected to a d.c power supply. A rider made from a thin copper wire is placed on the conductors as shown.



State and explain what is observed on the rider when the switch is closed. (2 mks)

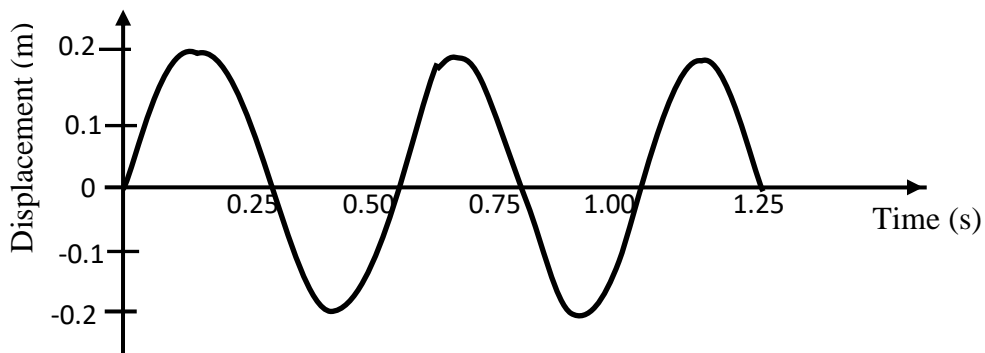
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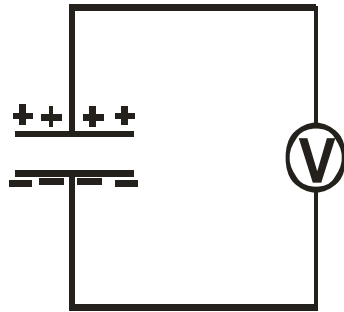
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8. The figure below shows how the displacement varies with time for a certain wave.



Determine the frequency of the wave. (2 mks)

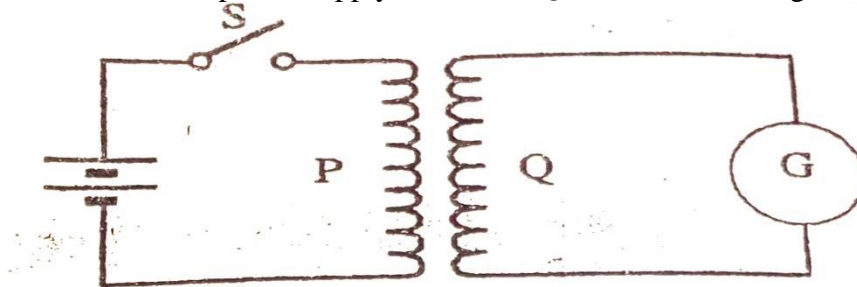
9. The figure below shows a voltmeter connected across two charged parallel plates.



When a thin sheet of mica is inserted between the plates, the reading of the voltmeter is observed to reduce. Explain this observation. (2 mks)

10. An electric heater is rated **240 V, 3000 W** is to be connected to a **240 V** mains supply, through a **10 A** fuse. Determine whether the fuse is suitable or not. (3 mks)

11. The figure below shows two identical copper coils **P** and **Q** placed close to each other. Coil **P** is connected to a d.c power supply while coil **Q** is connected to a galvanometer, **G**.



- a) *State* and *explain* what would be observed on the galvanometer immediately the switch **S** is closed. (2 mks)
- b) State the difference that would be noted in the observation made in (a) if the number of turns in coil **Q** were halved. (1 mk)

12. The activity of iodine was found to be 1 024 counts per minute. After 80 days, the activity became 32 counts per minute. Determine the half-life of iodine. (3 mks)

SECTION B (55 MARKS)

Answer ALL the questions in this section in the spaces provided

13. a) State one difference between light and sound waves (1 mk)

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b) In determining the depth of a sea, an echo sounder produces *ultrasonic sound*. Give *two* reasons why this sound is preferred. (2mks)

c) Explain how an increase in temperature affects the velocity of sound in air. (2 mks)

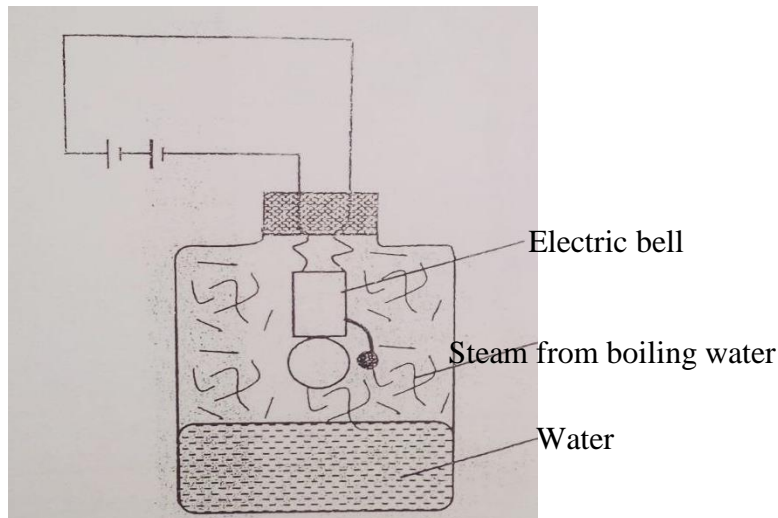
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d) The figure below shows a set up made by a Form 2 student to study an aspect of a wave.



(i) State what happens to the sound from the bell as the bottle and its contents are cooled to 0°C (1 mk)

(ii) Explain the observation in (i) above (2 mks)

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e) A boy stands some distance from a high wall and claps his hands. He claps again each time he hears an echo.

(i) What *two* measurements would need to be made in order to determine the speed of sound? (2mks)

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(ii) The boy's friend notes that it takes 10 s to make 11 claps. Determine how far the boy is from the wall, given that the speed of sound in air is 330 m/s. (2 mks)

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14. a) State Ohm's law. (1 mk)

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b) With an aid of a diagram, describe an experiment to verify Ohm's law for a wire. (4 mks)

c) Two resistors, R_1 and R_2 are connected in series to a 10 V battery of negligible internal resistance. The current that flows in the set-up is 0.5 A. When R_1 is connected alone to the battery, the current that flows is 0.8 A. Calculate:

(i) The value of R_2 (3 mks)

(ii) The current that flows when R_1 and R_2 are connected in parallel to the same battery (3 mks)

15. a) State **two** conditions necessary for total internal reflection to occur. (2 mks)

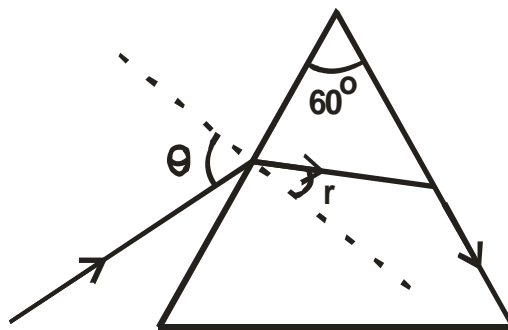
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b) The figure below shows the part of a ray of yellow light through a glass prism. The speed of yellow light in the prism is 1.88×10^8 m/s.



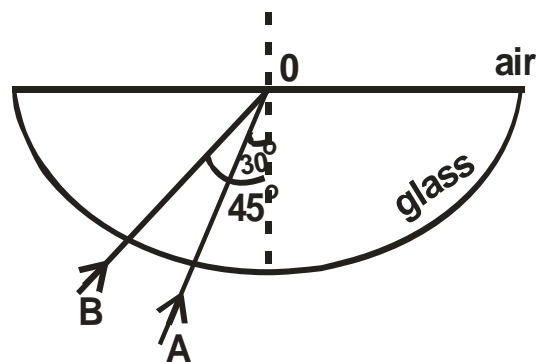
i) Determine the refractive index of the prism material (Speed of light in air, $C = 3.0 \times 10^8$ m/s) (2 mks)

ii) Show on the figure the critical angle **C**, and determine its value. (3 mks)

iii) Given that $r = 21.2^\circ$, determine angle θ .

(2 mks)

c) The figure shows two rays A and B entering a semi-circular glass block which has a critical angle of 42° . The rays are incident at point O.



(i) Complete the path of the two rays from point O. Label A^1 and B^1 the corresponding rays. (2 mks)

(ii) Calculate the refractive index of the semicircular glass block. (2 mks)

16. a) (i) State two properties of X — rays (2mks)

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(ii) In a certain X-ray tube, electrons are accelerated by a potential difference of 10KV. Assuming that 5% of the energy is converted into X — rays, determine the frequency of the X-rays produced. ($h = 6.62 \times 10^{-34} \text{Js}$, $e = 1.6 \times 10^{-19} \text{ C}$) (3mks)

b) Describe how a P-type semiconductor is formed (3mks)

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c) Give one experimental observation which shows that each of the following is not an electromagnetic wave: (2 mks)

(i) Sound waves

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(ii) Cathode rays

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- d) A source of radiation gives photons of energy 5.9×10^{-19} J. Calculate the wavelength of the photons (Planck's constant, $h = 6.23 \times 10^{-34}$ Js and the speed of light, $c = 3.0 \times 10^8$ m/s) (2 mks)

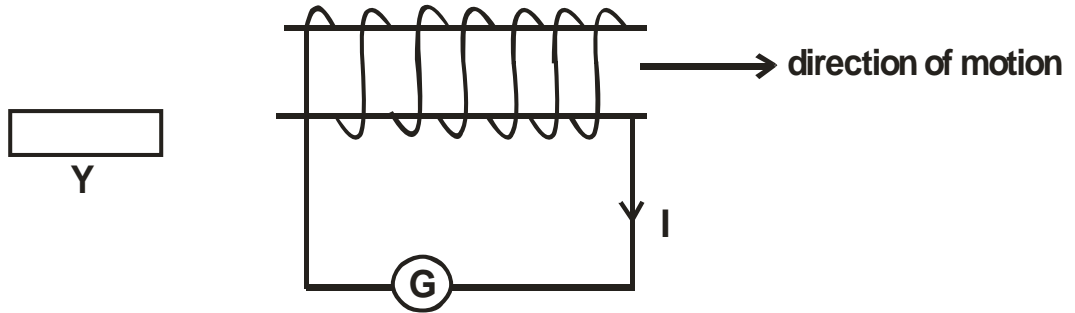
17.a) State Lenz's law of electromagnetic induction. (1 mk)

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- b) A coil is moved quickly away from the end of a stationary magnet Y and current noted to flow as shown below.



- (i) Indicate on the same figure, the polarity at the end of the coil near the magnet Y. (1 mk)
- (ii) State the essential condition for emf to be induced in the coil above. (1 mk)

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- c) A transformer has 800 turns in the primary winding and 40 turns in the secondary winding. The current in the primary is 0.2 A when connected to an alternating e.m.f of 240V. Find:



(i) The secondary e.m.f. (2mks)

(ii) The power in the secondary if the transformer is 80% sufficient. (2mks)

Name:

School:

Index N.o: Date: Signature:

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232/3

- PHYSICS -
(PRACTICAL)

PAPER 3

INSTRUCTIONS TO CANDIDATES

- (a) Write your name and index number and school in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) Answer ALL the questions in the spaces provided in the question paper.
- (d) You are supposed to spend the first 15 minutes of the 2½ hours allowed for this paper reading the whole paper carefully before commencing your work.
- (e) Marks are given for a clear record of the observations actually made, their suitability, accuracy and the use made of them.
- (f) Candidates are advised to record their observations as soon as they are made.
- (g) Non-programmable silent electronic calculators may be used.
- (h) This paper consists of 8 printed pages.
- (i) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (j) Candidates should answer the questions in English.

For Examiner's Use Only

Question 1

	e	f	g(i)	g(ii)	h
Maximum Score	7	5	2	2	4
Candidate's Score					

Question 2

	a(i)	a(ii)	a(iii)	b(i)	b(ii)	e	f	g	j
Maximum Score	1	2	2	2	2	5	2	1	3
Candidate's Score									

GRAND TOTAL

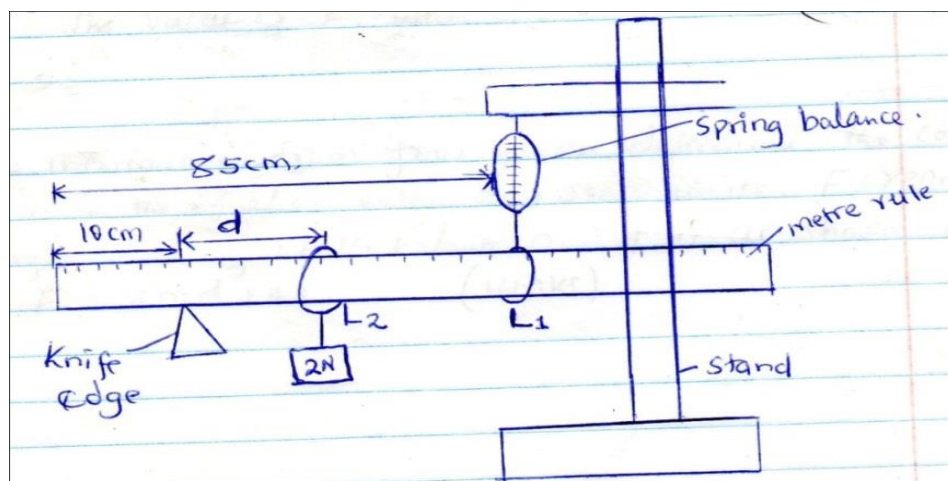
Question 1

You are provided with the following:

- A metre rule
- A spring balance
- A mass of 200g (2N) with a hook or (two 100g masses)
- Stand
- Knife edge support.
- Two light strings about 10cm long.

Proceed as follows:

- (a) Using the string provided make two loops to be used as hooks L1 and L2 in the diagram.
- (b) Suspend the spring balance from a clamp and using one loop to support the rule from the spring so that the loop L2 is on 85cm mark.
- (c) Support the other end of the rule with a knife edge at the 10cm mark so that the rule is horizontal.



- (d) Using loop 1 suspended the 2N weight at a distance $d=10\text{cm}$ from the knife edge as shown and take the reading of the spring balance, record the results in table 1.
- (e) Adjust the distance d to 20cm, 30cm e.t.c and each time recording the reading of the balance to complete the table.

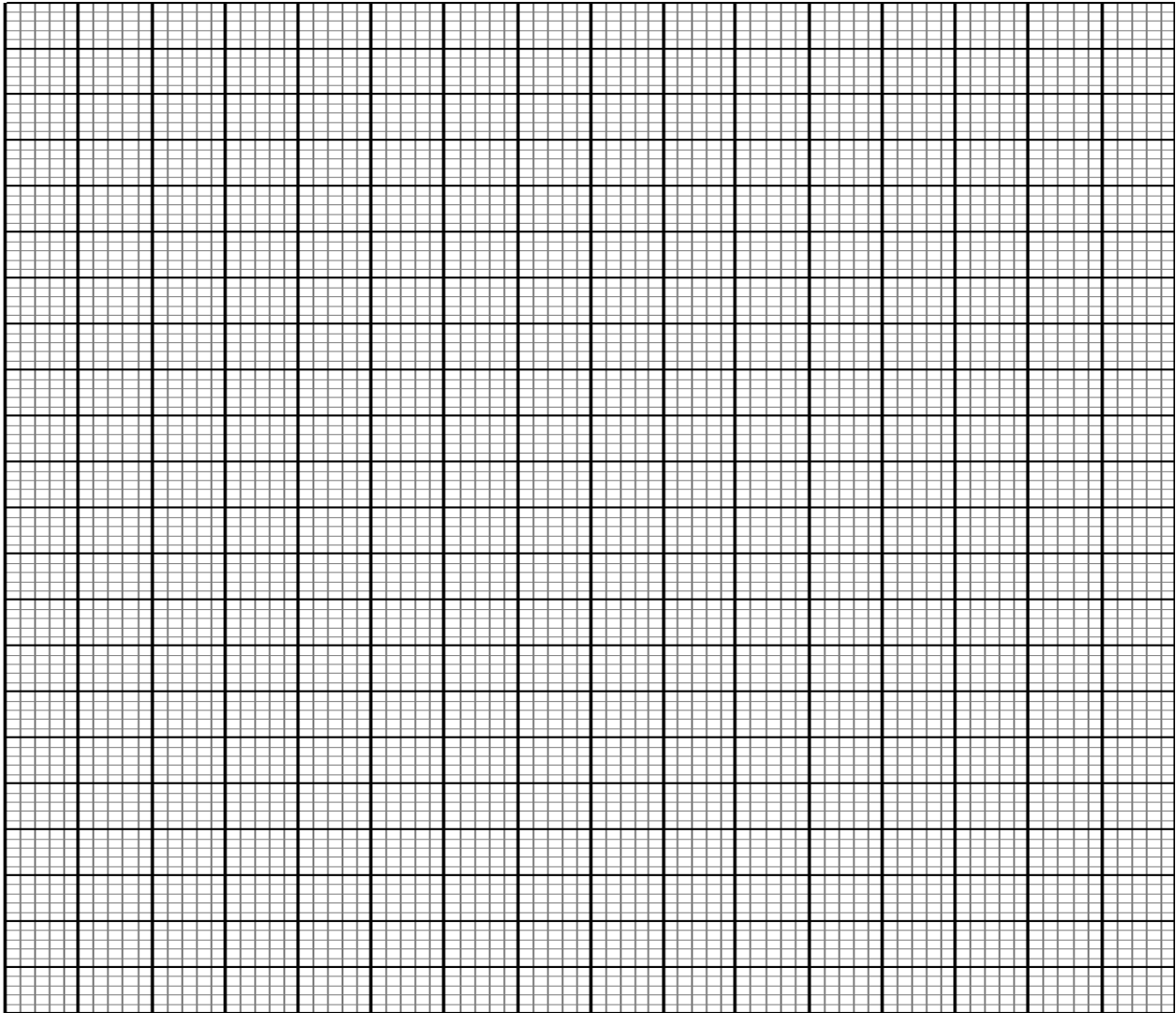
Table 1

Distance (d)	10.0	20.0	30.0	40.0	50.0	60.0	70.0
Force (N)							

(7marks)

(f) Plot a graph of force F against distance $d(\text{cm})$

(5 marks)



(g) From your graph determine:

i) The slope

(2mks)

ii) The value of F when $d=0$ (2mks)

(h) Using the information from your graph, determine the constant k and m in the equation below and state units, f represents the reading of the balance and d is as shown in the above. **$F=2md +40k$** . (4marks)

Question 2

PART A

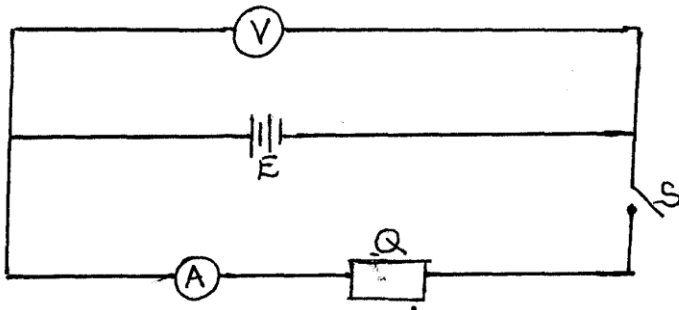
You are provided with the following:

- Two new dry cells
- A resistor labeled Q
- Wire mounted on a millimeter scale
- 6 connecting wires with crocodile clips on one end of at least three
- A voltmeter
- An ammeter

– A switch

Proceed as Follows:

(a) Connect the apparatus provided as shown in the figure below.



(i) Take the voltmeter reading when the switch S is open.

$V_1 = \dots\dots\dots$ volts (1 mark)

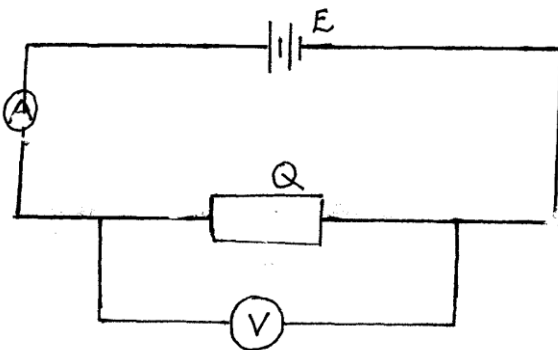
(ii) Close the switch S, and take the voltmeter reading V_2 and the ammeter reading I

$V_2 = \dots\dots\dots$ volts (1 mark)

$I_1 = \dots\dots\dots$ Amperes (1 mark)

(iii) Calculate the quantity $P = \frac{V_1 - V_2}{I_1}$ (2 marks)

(b) Set up the circuit as shown in the figure below



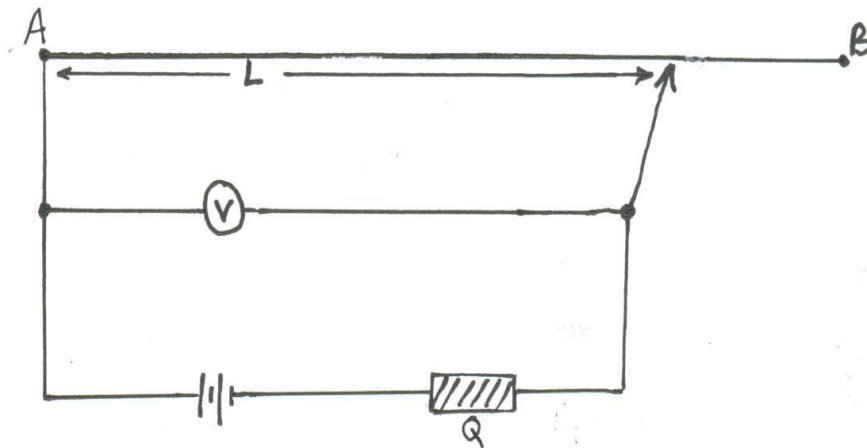
- (i) Take the voltmeter reading V and the ammeter reading I . (2 marks)

$$V = \dots\dots\dots$$

$$I = \dots\dots\dots$$

- (ii) Determine the resistance R of Q (2 mark)

- (c) Set up the circuit shown in the figure below



- (d) Move the crocodile clip along the wire AB to a point such that $L = 100\text{cm}$. Note the voltmeter reading and record in table 2.

- (e) Repeat (d) above for values of $L = 80\text{cm}$, 60cm , 40cm , 20cm and 0cm , tabulate your results.

(5 marks)

Table 2

Length L (cm)	100	80	60	40
$\frac{1}{L} \left(\frac{1}{cm} \right)$				
Voltmeter Reading (V)				
$\frac{1}{V} \left(\frac{1}{V} \right)$				
$Z = \frac{\frac{1}{L}}{\frac{1}{V}} \text{ (V/cm)}$				

(f) Determine the average value of Z.

(2 marks)

PART B

You are provided with the following

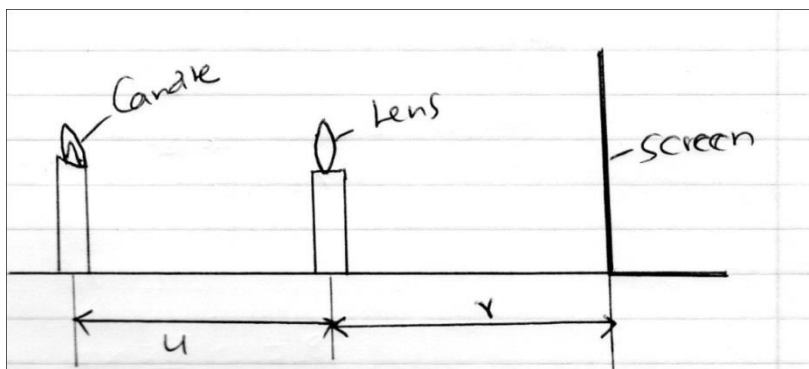
- A candle
- A lens and a lens holder
- A screen
- A metre rule

(g) Determine the focal length, f by focusing a distant object.

$f = \dots\dots\dots\text{cm}$

(1mark)

(h) Set up apparatus as shown in the figure below ensure that the candle flame and the lens are approximately the same height above the bench.



(i) Set the position of the lens so that it is 40cm from the candle ($u=40\text{cm}$). Adjust the position of the screen until a sharp image of the candle flame is obtained. Measure the distance (v) between the lens and screen. Record the value of v in the table below.

- (j) Repeat the procedure in (i) above for the other values of u in the table 3 below. Complete the table (3marks)

Table 3

U(cm)	40	50
V(cm)		
Magnification $m=v/u$		

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