For Answers

Contact Mr. Oriosa

Tell: 074324106 4

(Notes, schemes of work, knec past papers & ans, topical questions & ans)

NAME ……..

ADM NO: …….

DATE:……

SIGNATURE:…….....

443/1

AGRICULTURE

PAPER ONE (1)

FORM THREE (3)

TIME: 2 HOURS

ENTRANCE EXAMINATION TERM 1 YEAR 2022

KENYA CERTIFICATE OF SECONDARY EDUCATION.

INSTRUCTIONS TO ALL CANDIDATES

a) **This paper consists of three sections A, B and C.**

b) **Answer all questions in sections A, and B.**

c) **Answer any Two questions in section C.**

d) **All answer must be written in the spaces provided.**

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
A	1-17	30	
B	18-21	20	
C		40	
TOTAL		90	

SECTION A (30 MARKS)

ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED.

1. State three characteristics of shifting cultivation. 1 ½ mks

2. State any four factors that influence spacing of crops. 2mks

3. State two conditions under which the opportunity cost is zero. 1mk

4. Give two activities carried out during hardening off tomatoes seedlings. 1mk

5. State four benefits of minimum tillage in crop production. 2mks

6. Differentiate between olericulture and pomoculture as used in crop production 1mk

7. Give four reasons for staking tomatoes. 2mks

8. List three methods applied in clearing land before ploughing 1 ½ mks

9. Give four desirable characteristics of certified seeds. 2mks

10. State four factors that may affect the quality of silage. 2mks

11. a) Give four causes of land fragmentation . 2mks

b) Name four settlement schemes that the Kenyan government started as a result of the success of the million acre scheme. 2mks

12. Give three effects of HIV/AIDS and ill health on agriculture. 1 ½ mks

13. Why is it necessary to incorporate the following in the preparation of compost manure
    a) a layer of top soil 1mk

    b) a layer of well rotten manure 1mk

14. Give two roles of magnesium to crops. 1mk

15. State three aspects of light that influence crop production. 1 ½ mks

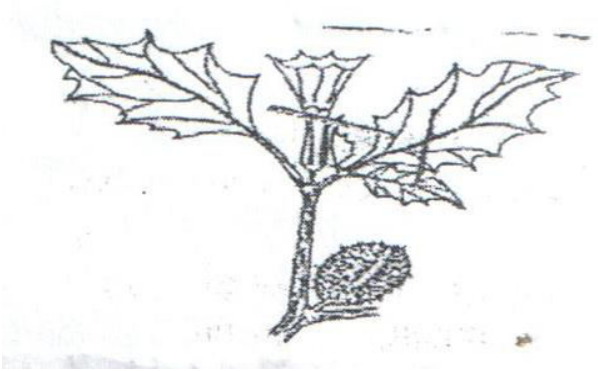
16. a) Differentiate between undersowing and oversowing in pasture production. 1mk

    b) State two advantages of undersowing in pasture production. 1mk

17. Give four conditions of the land which makes it necessary to carry out reclamation practices. 2mks

SECTION B (20 MARKS)
ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

18. The diagram below shows a common weed in crop land, use it to answer the questions below.



a) Identify the weed 1mk

b) State two harmful effects of the above weed to crop production. 2mks

c) List two morphological features of weeds that influence its selectivity to herbicides. 2mks

19. A farmer was advised to apply a fertilizer 20:0:15 on a vegetable plot measuring 40mx30m at the rate of 300kg per hectare.

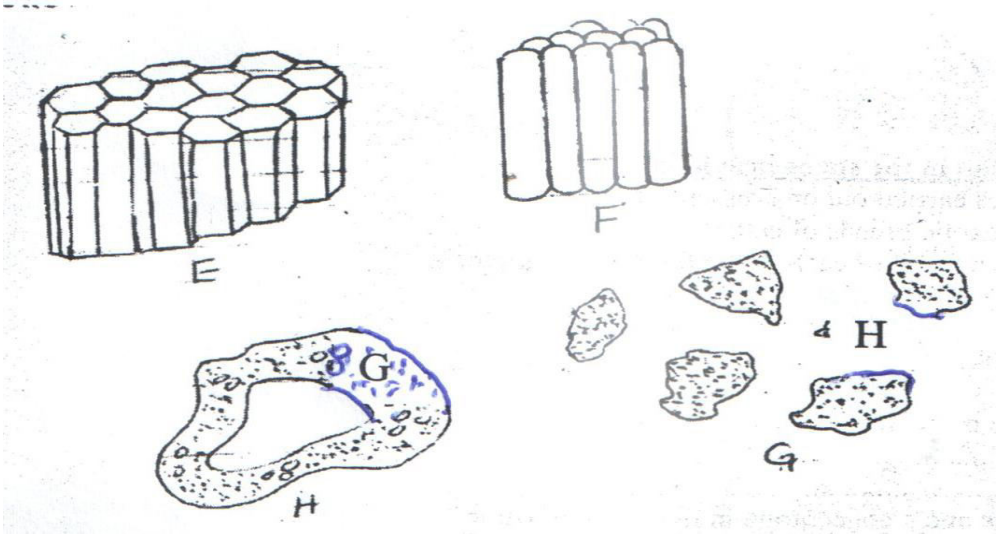
a) Name the two primary macro-nutrients the soil was deficient in. 1mk

b) What does the numeral 15 in the fertilizer grade represent? 1mk

c) Calculate the amount of fertilizer the farmer would require for the plot. 2mks

d) A part from uptake by plants, state one other way through which phosphorous is lost from the soil. 1mk

20. The diagram labeled E,F.G and H, illustrates some soil structures. Study the diagrams carefully and answer the questions that follow.



a) Name the soil structures E,F, G and H. 2mks

E

F

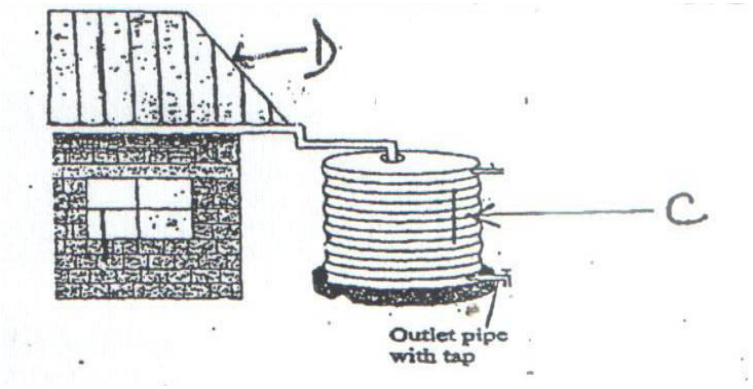
G

H

b) Define soil structure. 1mk

c) State four field practices which destroy the soil structures. 2mks

21. The diagram below show a structure used in collecting water in the farm.



a) Identify the method of water collection above. 1mk

b) Give two factors that will determine the amount of water collected in the above mentioned structure. 2mks

c) Outline two maintenance practices carried out on the part labeled D above. 2mks

SECTION C (40 MARKS)

ANSWER ANY TWO QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED AFTER QUESTION 24

22. a) Explain ten effects of strong wind on crop production. 10 mks

b) Describe ten cultural or biological methods of controlling soil erosion. 10 mks

23. a) Describe the production of tomatoes under the following sub headings:-

i) Nursery preparation 6mks

ii) Transplanting 5mks

iii) Any four field management practices. 4mks

b) Explain five groups of pesticides based on the mode of action . 5mks

24. a) Explain four precautions that should be observed when harvesting cotton. 4mks

b) state and explain five factors influencing crop rotation programme to be adopted by a farmer. 10 mks

c) Explain six factors that influence seed rates in crop production. 6mks

NAME_____ ADMISSION NO._____

CLASS_____

DATE:_____

231/1

BIOLOGY (Theory)

APRIL/MAY 2022

2 Hours

KENYA CERTIFICATE OF SECONDARY EDUCATION

FORM THREE BIOLOGY THEORY PAPER 1

Instructions to Candidates

- Write your Name and admission Number in the Spaces Provided.
- Sign and write date of examination in the spaces provided.
- This paper consists of ONE sections .
- Answer all the questions in the spaces provided.
- You should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

Answer all the questions in the spaces provided.

1. (a) State three effects of dumping untreated sewage into a river (3 mks)

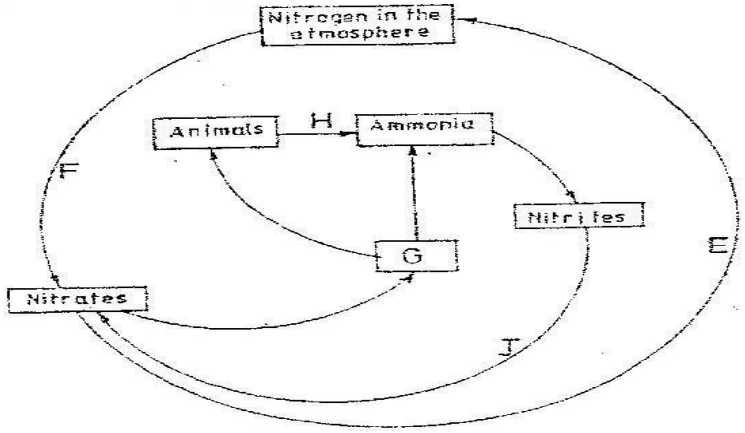
(b) Name one process that is responsible for loss of energy from one trophic level to the next (1mk)

c) Other than using the quadrat, give two methods of estimating population of grass (2 mks)

2. a) Name the causative agents of Typhoid in humans (1mk)

(b) Name the disease in humans caused by *Plasmodium falciparum* (1mk)

3.The diagram below represents a simplified nitrogen cycle.



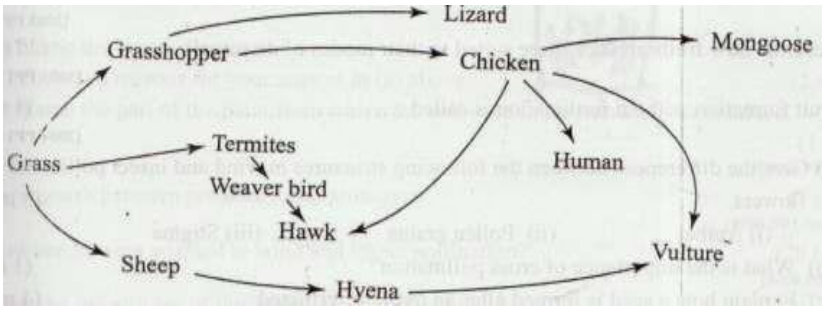
(a) Name the organisms that cause process E (1mk)

(b) Name the process represented by H. (1mk)

(c) Name the group of organism represented by G (1mk)

4. The figure below illustrates a food web in a certain ecosystem.

From the food web:



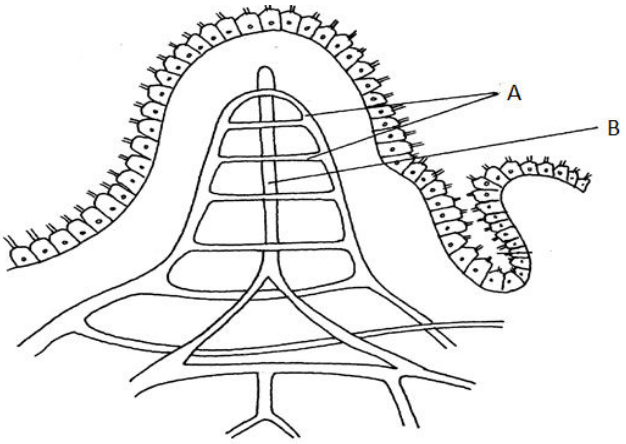
(a) Draw the shortest food chain; (1 mark)

b) Identify the organisms with the highest

(i) Number of predators; (1 mark)

(ii) Biomass. (1 mark)

5 . The diagram below represents a longitudinal section through the ileum wall



a) i) Identify the structure above. (1mk)

ii) Name part B (1mk)

b) State **one** function of **A** and **B** (2mks)

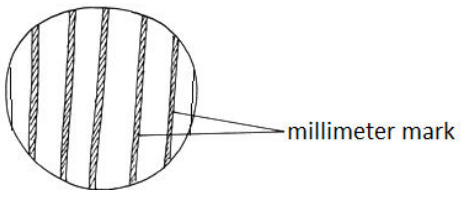
A

B

6 a) State **two** functions of the ileum (2mks)

b) Explain the role of the liver in digestion (2mks)

7. A student carried out an experiment on microscope work. The field of view was as shown in the following diagram. If she counted 20 cells on the diameter of the field of view



(a)What was the approximate size of each cell in micrometers (μm).(Show your working.) (2mks)

.

(b) Give reasons why the following should be done while preparing specimen for microscopy. (2mks)

(i) Keeping under water

ii) Staining

8. a). State **three** adaptations of floating aquatic plants to photosynthesis (3mks)

b). Explain how the following factors affect the rate of photosynthesis:

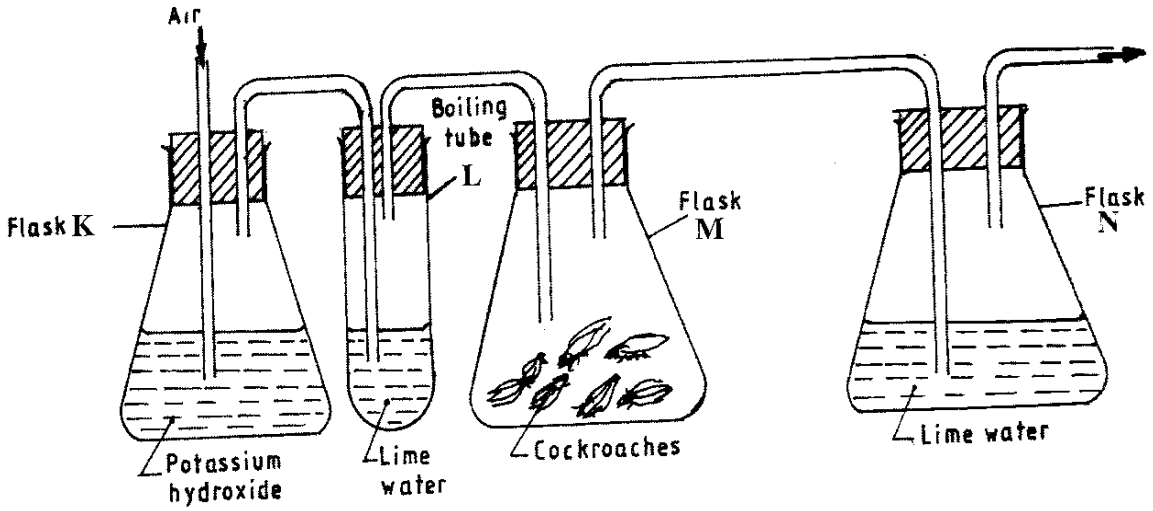
(i) Concentration of carbon (IV) oxide (1mk)

(ii) Light intensity (1mk)

9. (a) A leaf of a potted plant kept in darkness for 48hours was smeared with Vaseline jelly then exposed to sunlight for 8hours. Explain why the test for starch in the leaf was negative (3mks)

(a) Name **two** other processes that were interfered with in the plant (2mks)

10. The diagram below represents a set-up that students used in an investigation.



a) Name-the physiological process that was being investigated. (1 mark)

(b) State the role of potassium hydroxide in flask K. (1 mark)

(c) Account for the observation in boiling tube L and flask N. (2 marks)

L

N

11. a)In what form is energy stored in muscles (1mk)

b) State one economic important of anaerobic respiration in plants. (1mk)

12. What is the destination of materials translocated in plants? (3mks)

13. a) In which form is oxygen transported in the blood. (1mk)

b) Why do plants not take in oxygen during the day although they need it for respiration (1mk)

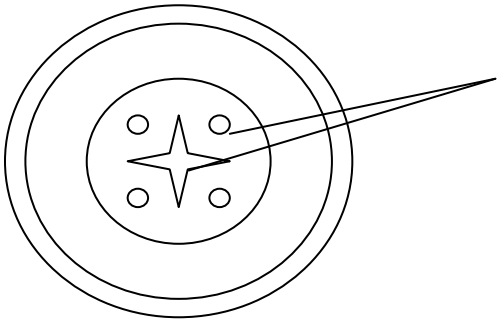
14. A woman gave birth to a child of blood group B+ (B positive). Name the two antigens that determined her child's blood group. (2mks)

15. Explain why capillaries are: (2mks)

(i) Thin walled

(ii) Branched

16.The diagram below represents a cross- section through a certain part of a flowering plant.



(a) (i) Identify the class of the plant from which the cross- section was made. (1mk)

ii) Give two reasons for your answer 2mks

(b) In the diagram, shade the region which would be stained with eosin dye if the plant was left to stand in a solution of the dye for two hours. (1 mark)

17. The figure below represents an organism.



a) Name the phylum and class to which it belongs. (2mks)

b)State **two** observable features that are used to place the organism in the class in (a) above. (2mks)

18. The table below shows the concentration of important plant nutrients

ion	Concentration in pond water(ppm)	Concentration in cell sap(ppm)
Potassium	200	50
chloride	0.5	20

a) Name the process by which the above ions could have been taken up by the plants. (2mks)
Potassium

Chloride

b) In terrestrial plants, flooding slows down uptake of certain minerals. From the above table, suggest with a reason the mineral whose uptake would be slowed down. (2mks)
Mineral

Reason

19. A biological washing detergent contains enzymes which remove stains like mucus and oils from clothes which are soaked in water with the detergent:-

(a) Name **two** groups of enzymes that are present in detergent (2mks)

(b) Explain why stains would be removed faster with the detergent in water at 35^{o}C rather than at 15^{o}C (2mks)

20. (a) What is meant by the terms

(i) Epigynous flower (1 mark)

(ii) Staminate flower (1 mark)

(b) How are the male parts of wind- pollinated flowers adapted to their function? (2mks)

21. What is the role of the following to a germinating seed:

(i) Oxygen (1mk)

(ii) Cotyledons (1mk)

22. State **two** features in the nephron that facilitate ultra-filtration (2mks)

23 (a) Name the gaseous exchange surface in insects (1 mk)

(b) How is the surface named in (a) above suited to its function (2mks

24. (a) What is the formula for calculating linear magnification of a specimen when using a hand lens?

(1 mark)

(b) Give a reason why staining is necessary when preparing specimens for observation under the microscope (1 mark)

NAME:_____ADM No:_____ CLASS:____

DATE:_____SIGN:_____

565/1

BUSINESS STUDIES PAPER 1

APRIL 2022

FORM 3

QUESTION PAPER

INSTRUCTIONS TO CANDIDATES

Answer all questions in the spaces provided.

1. Identify the macro-environmental factors affecting business operations as described by the following statements. (4mks)

(a) Laws and policies that regulate business activities.

_____

(b) Affects buyers ability to buy goods offered by a business

_____

(c) Firms selling similar products trying to outdo each other in their effort to maximize profit.

_____ _____

(d) Dictates how people live and what products they consume

_____

2. Highlight **four** circumstances which would make an office manager to replace an existing machine with a new one. (4mks)

(a)

(b)

(c)

(d)

3. Outline **four** essential elements of transport. (4mks)

(a)

(b)

(c)

(d)

4. Highlight **four** benefits of bonded warehouse to the government. (4mks)

(a)

(b)

(c)

(d)

5. The following relates to Thika traders as at 31.12.16.

	Sh.
Capital	600,000
Motor van	280,000
Furniture	80,000
Current liabilities	50,000
3 year bank loan	100,000
Current assets	?

Required

Prepare Thika traders balance sheet as at 31.12.16. (4mks)

6. In the spaces provided below, indicate the type of utility crated by each of the following commercial activities. (4mks)

Commercial activity	**Type of utility**

(a) Making a bed	
(b) Storage of goods	
(c) Transporting goods	
(d) Selling a pen to a student	

7. Ochieng has been assigned a duty of preparing memorandum of association for his company. State **four** clauses that could be included in the memorandum of association. (4mks)

(a)

(b)

(c)

(d)

8. Write the correct market structure against each of the following conditions in the spaces provided. (4mks)

Market conditions	Market structure
(a) Market structure that determines its own price.	
(b) Market structure that has price rigidity.	
(c) Firms act independently.	
(d) Market structure with uniformity	

9. Highlight **four** circumstances under which a producer may sell his products directly to consumers. (4mks)

(a)

(b)

(c)

(d)

10. Give **four** circumstances under which an insurance company may find it necessary to re-insure. (4mks)

(a)

(b)

(c)

(d)

11. Musa intends to start a business but does not know what goods and services to produce. Mention to him **four** factors that may influence his decision on what to produce. (4mks)

(a)

(b)

(c)

(d)

12. Highlight **four** advantages of advertising to the consumer. (4mks)

(a)

(b)

(c)

(d)

13. Outline **four** methods of determining the price of a product in the market. (4mks)

(a)

(b)

(c)

(d)

14. Outline **four** circumstances that would influence a producer to use wholesalers in distributing farm produce. (4mks)

(a)

(b)

(c)

(d)

15. In the spaces provided indicate by writing increase, decrease or no effect, the effects of each one of the following transactions on the assets, liabilities and capital. (4mks)

Transaction	Assets	Liabilities	Capital
(a) Bought furniture on credit.			
(b) Withdrew cash for personal use.			
(c) Paid creditors by cash.			
(d) Converted personal car into business use.			

16. Draw **four** differences between a good and a service. (4mks)

Good	Service
(a)	
(b)	
(c)	
(d)	

17. State the type of unemployment to which each of the following statement relates. (4mks)

Statement	Type of unemployment
(a) Workers' full capabilities are not fully utilized.	
(b) High demand for labor during peak periods.	
(c) Demand for labor declines due to decrease in supply of goods and services.	
(d) Ignorance of existence of a job opportunity.	

18. The government of Kenya has encouraged ethical practice in business operations. Give **four** reasons for this. (4mks)

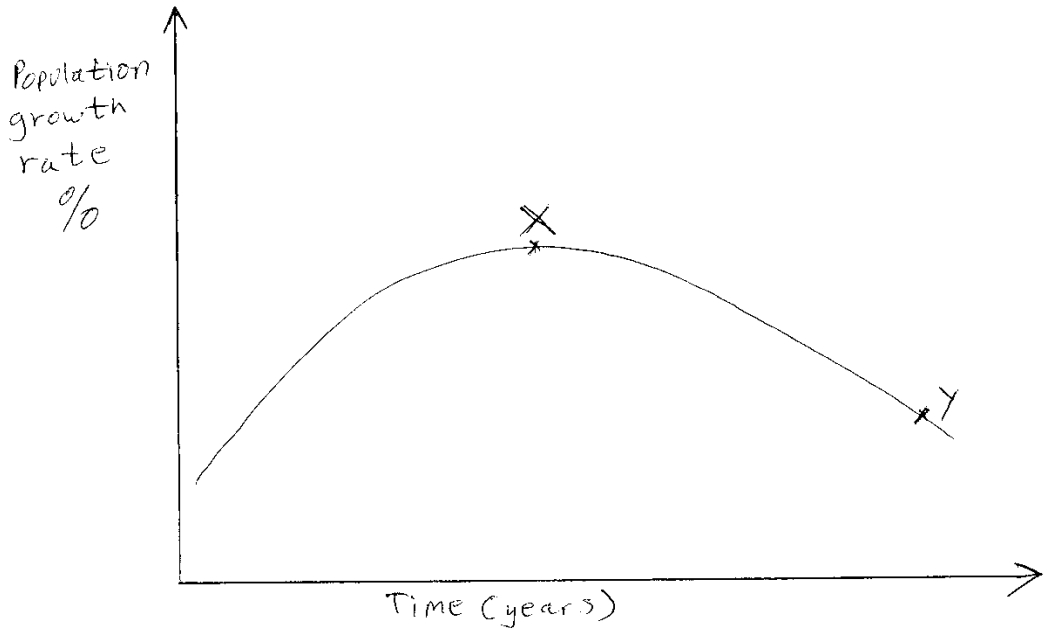
(a)

(b)

(c)

(d)

19. The graph below shows the rate of population growth of a given country.



Explain **four** factors that may have contributed to the trend between x and y. (4mks)

(i)

(ii)

(iii)

(iv)

20. State **four** disadvantages of using intermediaries in the distribution of goods. (4mks)

(a)

(b)

(c)

(d)

21. Give **four** reasons for growing popularity of hypermarkets in the country. (4mks)

(a)

(b)

(c)

(d)

22. Identify the following acts of parliament used by the government to protect consumers. (4mks)

Description	Act of parliament
(a) Requires that traders maintain high standards of hygiene.	
(b) Requires that traders use correct weighing equipment.	
(c) Requires that producers do not include harmful substance in the product.	
(d) Requires that traders only engage in business which they are permitted.	

23. Indicate the account to debit and the account to credit in each of the following transactions. (4mks)

	Account to debit	Account to credit.
(a) Started a business with sh.20,000 in the bank.		
(b) Bought goods sh.15,000 on credit.		
(c) Owner took sh.10,000 from bank for son's school fees.		
(d) Sold goods sh.8,000 in cash.		

24. The trial balance below relates to Kenol traders and was wrongly prepared.

Details	Dr. (sh)	Cr. (sh)
Sales	20,000	
Capital		75,000
Creditors	3,000	
Purchase returns	500	

Cash	86,200	
Purchases		6,000
Sales returns		1,300
Debtors	5,000	
	110,000	81,300

Required

Prepare a correct trial balance. (4mks)

25. Write the appropriate term of communication associated with each of the following statements. (4mks)

Statement	Term
(a) Manager gives instructions to his secretary.	
(b) Rumors that the supervisor has been transferred.	

(c) Manager issues a general circular to the workers.	
(d) Prefects discussing discipline in their school.	

FORM III ENTRANCE EXAMINATION TERM 1 YEAR 2022

CHEMISTRY PAPER 1 QUESTION PAPER

NAME ……..... **ADM NO** ……**CLASS** …… **DATE** ……

CANDIDATE'S SIGNATURE ……..

233/1
CHEMISTRY
PAPER 1

FORM 3

APRIL/MAY 2022
TIME: 2 HOURS

Answer all questions in the spaces provided

1. The electron arrangement of ions X^{3+} and Y^{2-} is 2:8. Write electron arrangement of each of the elements (2mks)
   X

   Y

2. A mixture contains sodium chloride, ammonium chloride and copper (II) oxide. Explain how a sample of each compound can be obtained (3mks)

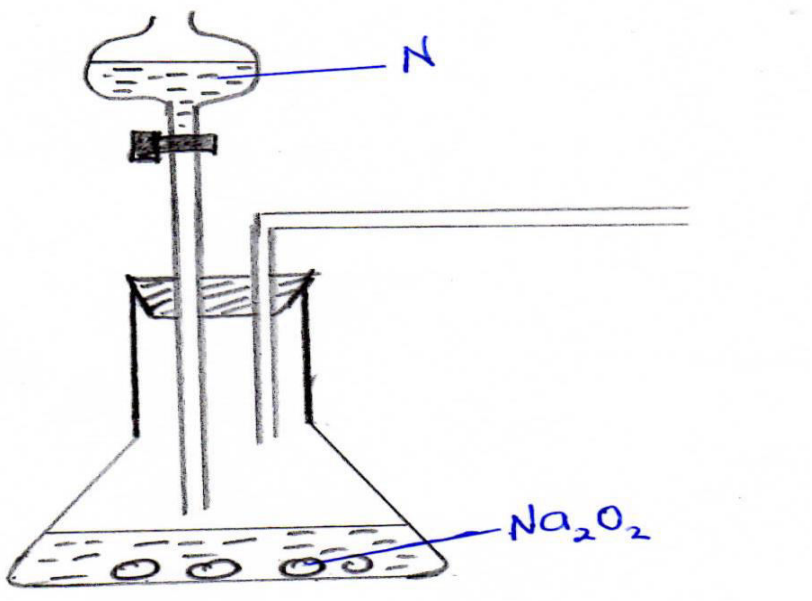
3. (i) Define the term allotropy (1mk)

   (ii) Diamond and graphite are two allotropes of carbon. Graphite conducts an electric current while diamond does not. Explain (3mks)

4. (i) What are isotopes?(1mk)

   (ii) An element Q has two isotopes with mass number 6 and 7. If the relative atomic mass of Q is 6.94, determine the percentage abundance of each isotope (3mks)

5. A student used the set up below to prepare and collect oxygen gas. Use it to answer the questions that follow



   i) Complete the diagram
   ii) Identify liquid N (1mk)

6. Starting with lead (II) carbonate, describe how a sample of lead (II) nitrate can be prepared (3mks)

7. The table below shows PH values of samples of various solutions. Use it to answer the questions that follow.

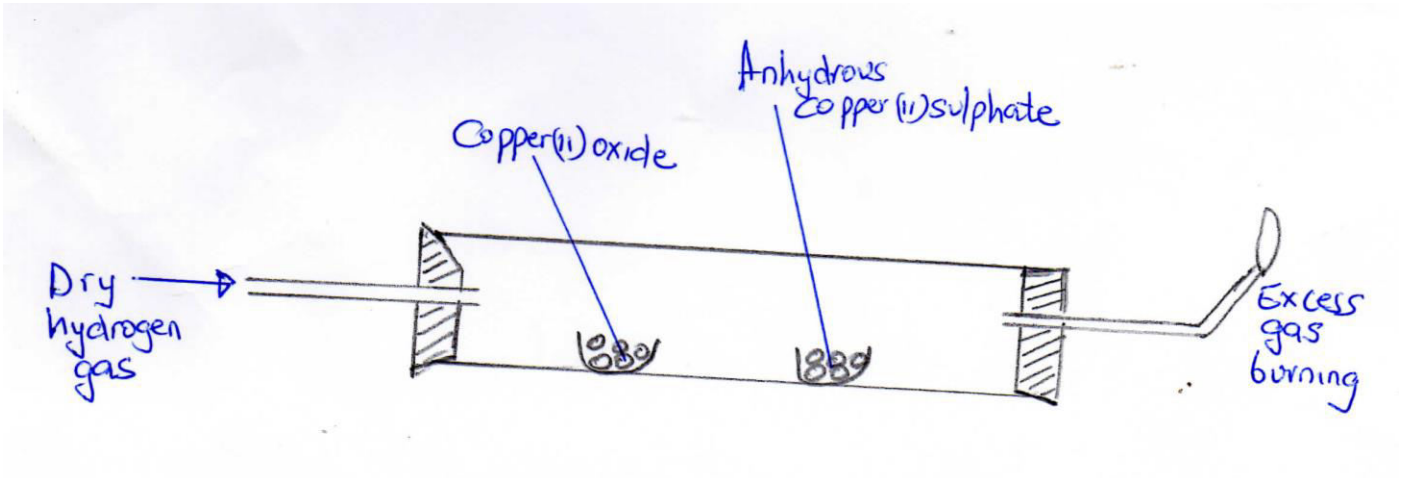
Solution	A	B	C	D	E	F	G	H
PH	1.0	4.0	5.0	6.5	7.0	7.5	8.0	11.0

a) Select the most acidic solution (1mk)

b) Which solution is likely to be rain water? (1mk)

c) Which solution is distilled water? (1mk)

8. The diagram below was used to study a property of hydrogen gas. Study it and answer the questions that follow.



a) Name the missing condition in the above set-up (1mk)

b) State and explain any two observations made in the combustion tube. (3mks)

9. The grid below represents the periodic table. Letters are not the actual symbols of element. Use it to answer the questions that follow.

A			B				C	D
E							F	
	G					H		J

i) Give the name of the family to which element G belongs (1mk)

ii) Explain why E is more reactive than A (2mks)

iii) State one use of element D (1mk)

11. (a) What is a dative bond? (1mk)

(b) Show how ammonium ion, NH_4^+ is formed from ammonia and hydrogen ion (N=7, H=1) (3mks)

12. (a) State Charles's law. (1mk)

(b) A certain mass of a gas occupies 800cm^3 at 50^{0}C and 760mmHg. What will be the volume of the gas at 0^{0}C and 720mmHg? (3mks)

13. Zinc metal and hydrochloric acid react according to the following equation.
$Zn(s) + 2HCl\ (aq) \longrightarrow ZnCl_2(aq) + H_2(g)$
2g of zinc metal were reacted with 200cm^3 of 0.1M hydrochloric acid.
a) Determine the reagent that was in excess (Zn=65,H=1,Cl=35.5 (3mks)

b) Calculate the volume of hydrogen gas that was liberated at S.T.P (Molar gas volume = 22.4 liters at S.T.P)(2mks)

14. (a) Define the term alkene (1mk)

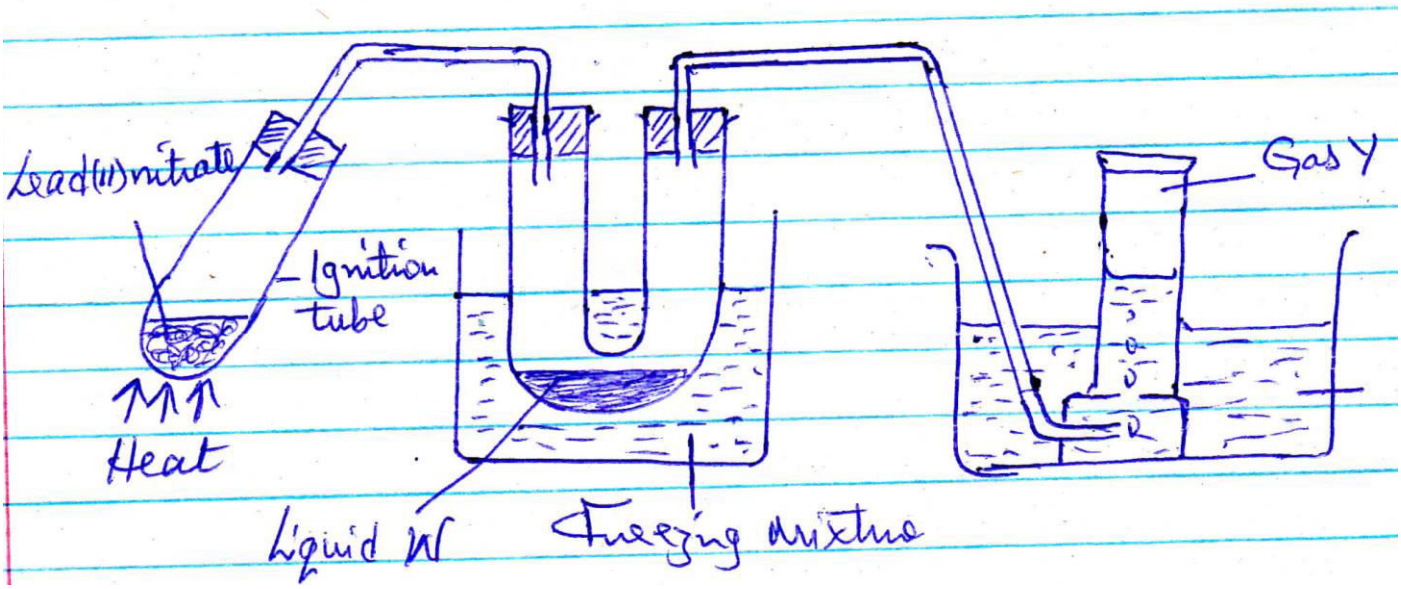
(b) Draw the structural formula of the following hydrocarbons
(i) 2,2- dimethylbutane (1mk)

(ii) 3-methylbut-1-yne (1mk)

15. (a) State two reagents that can be used to prepare ethane in the laboratory (1mk)

(b) State one use of methane gas (1mk)

16. Study the following set up and answer the questions that follow

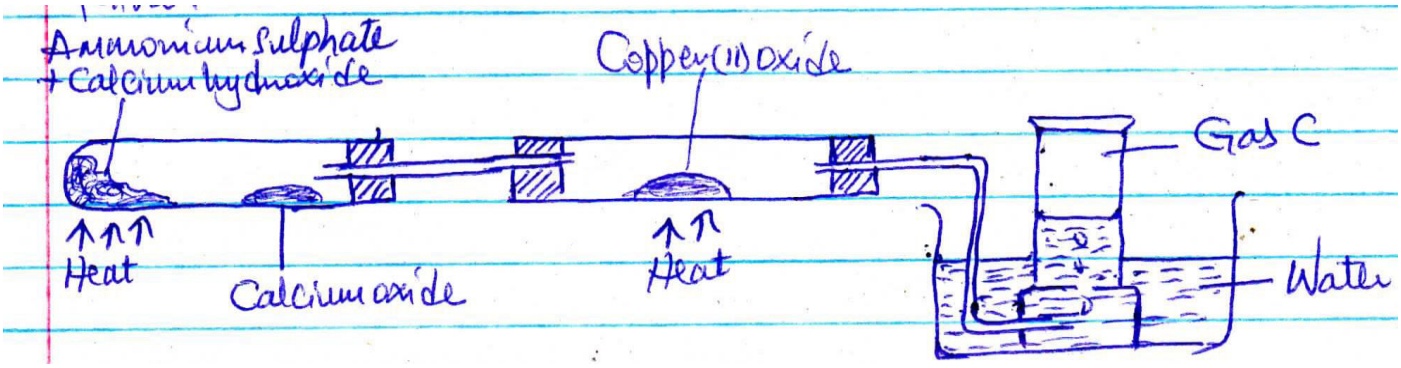


a) Write the equation for the reaction taking place in the ignition tube (1mk)

b) Identify gas Y (1mk)

c) Identify liquid W (1mk)

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

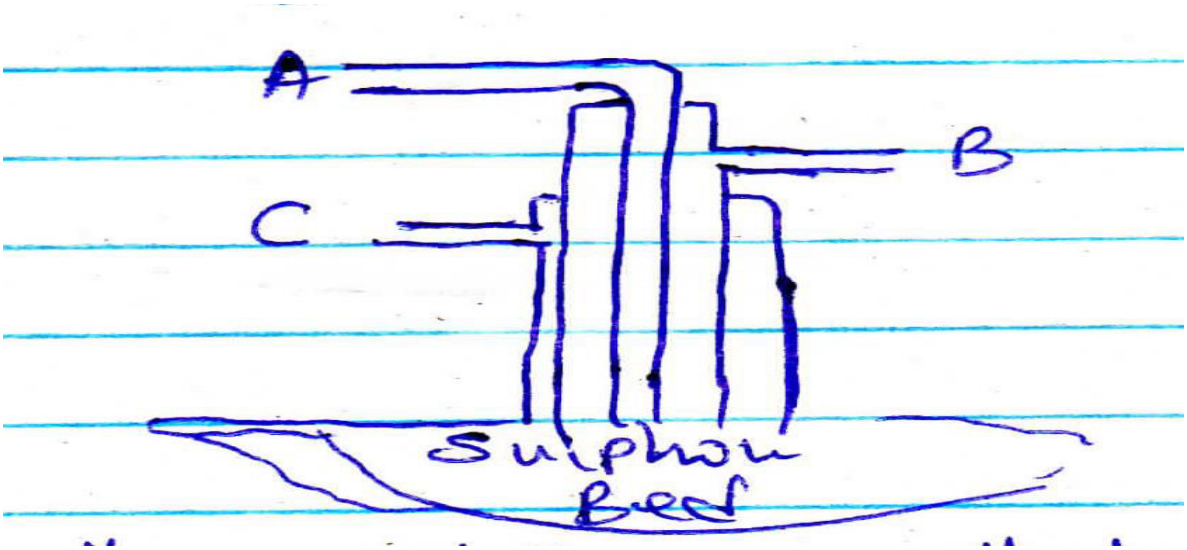


What is the purpose of calcium oxide in the set-up? (1mk)

a) State any two observations made in the combustion tube (1mk)

b) Name gas C (1mk)

18. Sulphur is extracted through Frasch process as shown below. Study it and answer the questions that follow



Identify the substance that comes out or gets in through pipe A, B & C (3mks)

A –

B –

C –

19. Sulphuric (VI) acid is manufactured in contact process.

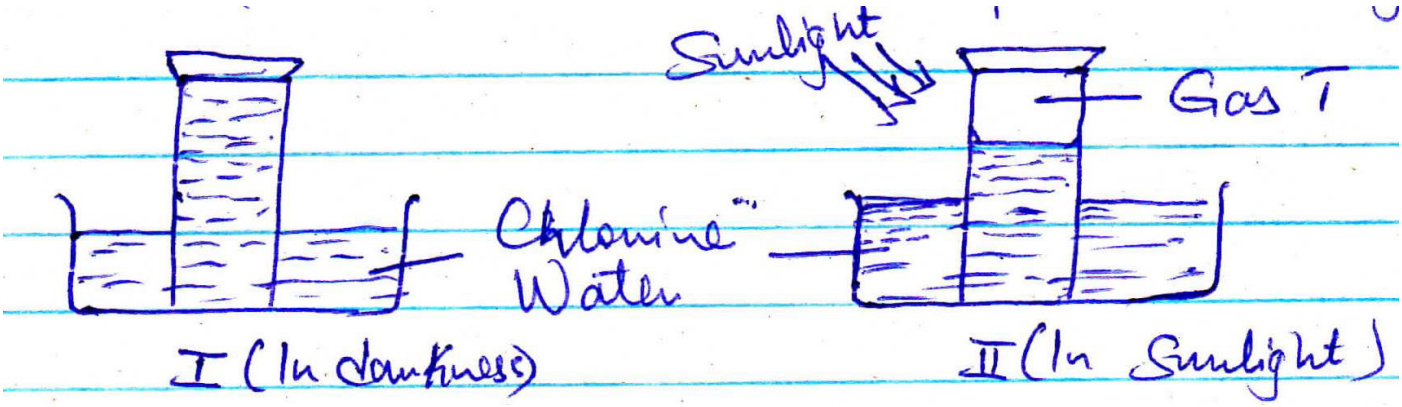
(i) State the raw materials for the contact process (1mk)

(ii) Which catalyst is preferred on contact process and why? (2mks)

(iii) Sulphur (VI) oxide formed is not dissolved directly in water. Explain (2mks)

20. State any two reagents used to prepare chlorine gas (1mk)

21. The experiment below was used to investigate what happens when chlorine water was exposed to sunlight.



i) Name gas T (1mk)

ii) State the test for gas T (1mk)

iii) Explain why gas T did not form in experiment I (1mk)

iv) Name the products of bubbling chlorine gas in water (1mk)

22. State and explain the pollution effects of compounds of nitrogen in the atmosphere (3mks)

23. (i) State Grahams law of diffusion (1mk)

(ii) The time taken for a contain volume of gas to diffuse through a small hole was 6 minutes. Under similar conditions an equal volume of oxygen took 7.5 minutes to diffuse. Calculate the RMM of the gas (O =16.0) (3mks)

24. A compound contains 80% carbon and the rest is hydrogen. If its RMM is 30, work out the molecular formula. (C=12,H=1) (3mks)

25. State one use of carbon (II) oxide which also a use of hydrogen (1mk)

26. (i) What are isomers (1mk)

(ii) Draw and name two isomers of butane C_4H_{10} (2mks)

FORM III NTRANCE EXAMINATION TERM 1 YEAR 2022

COMPUTER EXAMINATION

PAPER 1

Students Name: …… Adm. No……. Class: ……

Date: ……. Time **2 hrs.**

INSTRUCTIONS TO CANDIDATES

i) Write your name and admission number.
ii) Answer all the questions in the spaces provided after every question.

SECTION A (40MARKS)

Answer all the questions in this section

1. Name the input device described below [2 ½mks]

i) Uses magnetic principle to read cheque numbers

_____

ii) Has a gear-like lever for playing video games

_____

iii) A variant of mouse with ball on top that's moved with figures/palm to control on screen pointer.

_____

iv) A small version of keyboard embedded on portable devices

_____

v) Reads black marks made on a questionnaire to choose answers with multiple choices.

_____

2. List any four characteristics of systems. [2mks]

_____

_____

_____

_____

3. Give two functions of a primary key. [2mks]

_____

_____

_____

_____

4. Translate the hexadecimal number $8E_{16}$ into [2mks]

a) Binary

_____

_____

b) Denary

_____

_____

5. State three methods that can be used to transform an object in word processing. [3mks]

_____

_____

_____

6. Represent -21_{10} in three ways in 8 bit binary. [3mks]

_____

_____

_____

_____

7. Differentiate between private data and confidential data. [2mks]

_____

_____

_____

8. State the disk management command whose relevance is described below [2 ½mks]

i) Makes scattered file contents to occupy contiguous sectors so as to shorten access time.

_____

ii) Aligns tracks and sectors on a magnetic disk.

_____

iii) Deletes idle files from a disk to create more disk space.

_____

iv) Brings content of a disk close together to occupy less disk space so as to economize on space.

_____

v) Divides a disk into logical drives.

9. Explain why input screens are better data entry designs than entering data directly to a table. [2mks]

10. In a worksheet, the marks scored by ten students are stored in cell B3 to B12.

i) In cell C3, show an expression you would use to obtain positions of the students using marks scored in descending order. [2mks]

ii) In cell B13, write an expression you would use to extract the highest score from the marks. [1mk]

11. a) Justify why you would prefer:

i) CD-RW to CD-R

[1mk]

ii) DVD-R to CD-R

[1mk]

12. a) What is a logical error in a program? [1mk]

b) List any two methods one can use to test a program. [1mk]

13. a) Explain two uses of forms in database design. [2mks]

b) i) Define the term **control** as used in report design and form design. [1mk]

ii) Explain briefly the difference between bound and unbound control controls. [2mks]

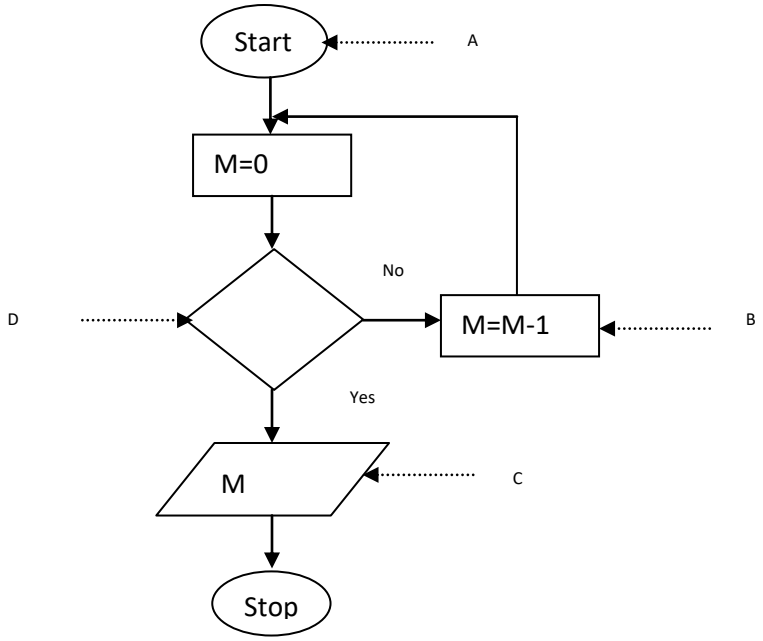
14. State three ways in which mobiles phones have affected money transactions. [3mks]

15. Write the following statement "mocK examinatiOns" in toggle case. [1mk]

SECTION B(60 MARKS)

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

16. a) Study the flowchart below and use it to answer the questions that follows.



i) Name the labeled flowchart symbols and state the function of each. [4mks]

_____

_____

_____

_____

ii) Define the term structured programming. [1mk]

_____

_____

iii) Write the following programming language acronyms in full: [3mks]

a) COBOL

_____

b) BASIC

_____

c) FORTRAN

_____

b) List two advantages of machine languages. [2mks]

_____

_____

c) Draw a flowchart to illustrate the following scenario. [5mks]

Start

Set to total to zero

Set counter to zero

Input first temperature

REPEAT

    ADD temperature to total

    ADD one to counter

    Input next temperature

UNTIL temperature < 0

Divide total by counter

Output result

Stop

17. a) i) Define the term information system. [2mks]

ii) Differentiate between a closed system and an open system. [2mks]

iii) Outline the stages of systems development life cycle in their logical sequence briefly describing what takes place at each stage. [7mks]

18. a) Subtract 10111_2 from 11001_2 [1mk]

b) Using twos complement, subtract 9 from 4 and give the answer in decimal notation. [4mks]

c) Convert

i) $91B_{16}$ to octal [3mks]

ii) 376_8 to hexadecimal [3mks]

iii) 10.625_{10} to binary [4mks]

19. a) Peter was sent to buy computers for the students' laboratory. He was supposed to take into account the following factors.

- Processor speed
- Memory capacity
- Compatibility

Give three main reasons for taking into account the above factors. [3mks]

b) State three functions of a database. [3mks]

c) In databases, the field properties specify finer details related to the fields and the table entries expected. List four field properties. [4mks]

_____

_____

d) Explain the term backup. [2mks]

_____

_____

e) A school intends to set-up an e-mail. List three activities likely to be provided by e-mail facility. [3mks]

_____

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_____

16. a) Differentiate between the terms workbook and worksheet (2mks)

_____

_____

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ii) A part from when saving a workbook for the very first time, state other two situations when it is advisable to use the save as command. (2mks)

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b) State **four** categories of inbuilt functions in Microsoft excel giving an example of each. (4mks)

_____

_____

_____

_____

c) A family business earned Ksh. 2,000 on Monday, Ksh. 3,000 on Tuesday, Ksh. 1,000 on Wednesday, Ksh. 3,500 on Thursday and Ksh. 6,000 on Friday. The expenditure over the same period was Ksh. 1,500 on Monday and Ksh. 500 on Tuesday. There was no expenditure the rest of the week.

i) Design a spreadsheet to calculate the profit per day (3mks)

ii) State the expression that would be used to obtain: (2mks)

a) The maximum profit for the week

_____

_____

The minimum profit for the week

_____

_____

b) The total profit for the week

_____

_____

c) The highest income during the week

_____

_____

d) The grading system below was used to assign grades to a list of students based on their mean scores.

80-100	A
60-79	B
40-59	C
Below 40	F

Assuming that the first mean score is in cell B3, write a function that would be used to assign grades to the students based on their mean scores. (2mks)

_____

_____

NAME:…….. ADM:…… CLASS:….

FORM 3 CRE PAPER 1

TIME: $2^{1}/_{2}$ HRS

INSTRUCTION TO CANDIDATES:

- **This paper has six questions**
- **Answer any five questions**
- **All answers must be in English.**

1. a) From the Genesis stories of the fall of man, explain the results of sin. (8mks)

   b) Explain the ways in which God demonstrated His love for Adam and Eve after the fall in the Garden of Eden. (7mks)

   c) How does the church solve the problem of sexual immoralities in the society today? (5mks)

2. a) Give the major event that happened to the Israelites during exodus before they entered Canaan. (8mks)

   b) Describe how the Israelites broke the Sinai covenant in Exodus 32:1-32. (8mks)

   c) What do Christians learn about the nature of God from the Exodus? (6mks)

3. a) How Prophet Samuel promoted the worship of God in Israel. (8mks)

   b) Outline seven activities in the life of King David that showed he had faith in God. (7mks)

   c) Identify five ways in which Christians demonstrate their faith in God. (5mks)

4. a) Describe three groups of true prophets in the Old Testament. (6mks)

   b) State six ways in which God would punish Israel for her evils according to prophet Amos. (6mks)

   c) Identify various forms of false religion that exist in the Church today. (8mks)

5. a) State six reasons why Jeremiah condemned the way of worship of the Israelites. (6mks)

   b) Explain four promises that the Israelites made when they renewed their covenant with God during the time of Nehemiah. (8mks)

   c) What lessons do Christian's leaders learn from the renewal of the covenant by Nehemiah? (6mks)

6. a) Mention places where the Africans believed the spirits lived in traditional African communities. (7mks)

   b) State the responsibilities of the lively to the ancestors in traditional African communities. (7mks)

   c) What factors have affected kinship ties in modern societies? (6mks)

Name:…….ADM NO.:……..

Class:…….. Date:……

English Paper 1

101/1

Time: 2 Hours

FORM THREE-2022

English Paper 1

101/1

Time: 2 Hours

INSTRUCTIONS TO CANDIDATES

(a) Write your name and admission number in the spaces provided at the top of the page.

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

(c) Answer all the questions in the spaces provided.

(d) The paper consists of 6 printed pages.

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

(f) Ensure your work is neat.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	STUDENT'S SCORE
FUNCTIONAL WRITING	20	
CLOZE TEST	10	
ORAL SKILLS	30	
TOTAL	60	

1. **FUNCTIONAL WRITING**

Drama club, for which you are a member, needs to raise a sum of sh. 20000 to aid them on their trip to Machakos for Drama Contest. To yours and the other members' astonishment, the school principal has offered to give you sh. 15,000.

(a) Write a memorandum to the other club members inviting them to a meeting to discuss this development. (12mks)

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b. Write the principal a note to sincerely thank him/her for the generosity. (8mks)

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2. Read the passage and fill in the blank spaces with the most appropriate word. (10mks)

When you have exams, time management becomes even more crucial. Begin studying early

enough before the exams start. Try to spend the entire prep time (night or day) ... 1..... the exam, studying for it. If you have two exams on the .. .2..... day, you'll have to split the time in half. For final exams, try to ...3..... as much time as possible studying. Do not be tempted, by any free time that you have during exam week, to do .....4 .....other than studying. (If you must take some time to relax, do it after ...5 .....done all your studying for the day.) If you have some free days, then some exams, then some more free days, then some more exams, etc., plan your studying so that you'll spend approximately the same amount of time studying for each exam, making sure that the night (or day) just before an **…6** ..... is spent studying for it. e.g., suppose you have two free days to study before exam number 1 then one more free day before exams number 2 and number 3. Think of each day as having 3 parts: morning, afternoon, ...7 ..... evening. Let's assume that each exam is in only one of..... 8..... parts (i.e., it's not so long that it extends through 2 of them), you might divide ...9.....studying time. Note that you should not delay studying for exam no 3 until after exam no 2; start studying for all exams right ...10 .....

3. ORAL SKILLS

(a) Read the excerpt from a speech below and then answer questions that follow'.

Life begins at conception, so unborn babies are human beings with a right to life. Upon fertilization, a human individual is created with a unique genetic identity that remains unchanged throughout his or her life. This individual has a fundamental right to life, which must be protected. Jerome Lejeune, the French geneticist who discovered the chromosome abnormality that causes Down syndrome, stated that "To accept the fact that after fertilization has taken place a new human has come into being is no longer a matter of taste or opinion... The human nature of the human being from conception to old age is not a metaphysical contention, it is plain experimental evidence."

i. If you were the one delivering the speech:
1. How would you have prepared for its delivery. (4marks)

……..

……

……

……

……

ii. Which techniques would you use to effectively deliver the speech? (4mks)

……..

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iii. If your classmate tells you at the end that you were anxious, what signs in you could have led to his/her conclusion? (4mks)

……..

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……..

……
……

iv. Write a word from the paragraph that ends in the same sound as: (5mks)

i. Experimental ……

ii. Haste……

iii. Elated……

iv. Conception……

v. Jerome……

b. The word in column A differs in pronunciation with the one in column B with one sound. Study the examples given and then complete the table (5mks)

	Column A	**Column B**
I	Brash	Brush
Ii	bad	Bud
Iii		Swum
Iv		Uncle
v	Massed	
vi	Track	
vii	Pan	

c. Which word can be pronounced as each of the following? (4mks)

i. Through…….

ii. Sale……

iii. Mind…….

iv. Maize……..

d. Indicate the correct intonation for the following sentences. (4mks)

i. You must be mad

…….....

ii. Can we run away?

……..

iii. Don’t you know he is visiting?

……

iv. What is the name of the boy?

……

NOM…….

NUMERO ……

CLASSE ……...

501/1
FRENCH
PAPER 1 (Listening Comprehension, Dictation and Composition)
TIME 2 ¾ HOURS

ENTRANCE EXAMINATION TERM 1 YEAR 2022

FRENCH FORM THREE PAPER 1

Instructions to candidates

- *This paper consists of three sections.*
- *In section I you have five minutes to read through the questions before the test start.*
- *Before answering the question you will listen to several recorded passages on a tape. For each passage you will answer questions as indicted to you on the tape.*
- *In section II, you will listen to recorded materials and start writing during the second listening.*
- *In section III, choose one composition from question 1 and one from question 2.*
- *Answer all the questions in the spaces provided.*

This paper consist of 5 printed pages Candidates should check the question paper to ensure that both pages are printed as indicated and no questions are missing.

SECTION	MAXIMUM SCORE	SCORE
1	15	
2	05	
3	25	
TOTAL SCORE		

SECTION 1: listening comprehension

1. Passage 1

SONDAGE

Fill in the table below by supplying the required information on the person being interviewed.

a.	Nom:	[½ point]
b.	Age:	[½ point]
c.	Petit boulot:	Le ……de …… à …… [1½ points] (le jour) (l'heure)
d.	Détails du petit boulot:	i. …… [½ point] ii. …… [½ point] iii. Et quelquefois faire …… [½ point]

e. Quel est son avis concernant le boulot en question ?

…… [1 point]

2. **Passage 2**

FLASH-INFO

Fill in the blanks using one word only

D'après le Flash-info, Madame Chebet qui …… (i) la rue Kimathi s'est cassé le …… (ii) gauche car le conducteur de la Peugeot …… (iii) ne s'est pas arrêté aux …… (iv) rouges. Cet accident a eu lieu à …… (v) du matin. [2 ½ points]

3. Passage 3

MESSAGE SUR UN REPONDEUR

Complete the following table. Put an (X) if the answer is not mentioned in the recorded text.

a.

i.	la personne qui laisse un message	
ii.	jour de la sortie	
iii.	type de sortie	
iv.	lieu	

v.	prix	

[2 ½ points]

b. De quelle nationalité est l'amie de Lucie ? …… [½ point]

c. A quelle heure commence la sortie ? …… [½ point]

d. Complétez le numéro de téléphone. **<u>06</u> ____ ____ ____ _____ _____** [1 point]

e. Combien seront-ils en tout ? …… [½ point]

4. **Passage 4**

UNE PUBLICITÉ

Answer the following questions

a. Dans quelle région est-ce qu'on fera la randonnée?

…… [½ point]

b. D'où partira la randonnée ?

…… [½ point]

c. Combien coûte cette activité ?

…… [½ point]

d. Citez deux activités par laquelle la journée terminera. [1 point]

i. ……

ii. ……

Write the dictation passage in the spaces provided.

[5 points]

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……..

SECTION III (COMPOSITION) (25 PTS)

Attempt one composition from question one and one from question two. Indicate clearly whether your choice is 1a, 1b, 2a or 2b.

1. In French, write a composition of 120-150 words on;

Either

a) Imaginez que vous êtes guide touristique et que vous attendez l'arrivée des touristes français. Préparez un itinéraire (10 pts)

Or

b) Vous allez fêter l'anniversaire de Caroline, votre amie, Samedi 15 décembre 2018.Faites le programme. (10 pts)

2. In 150-180 words, write in French a composition on;

Either

a) Une visite au parc national (15 pts)

Or

b) Mon premier jour à l'école secondaire (15 pts)

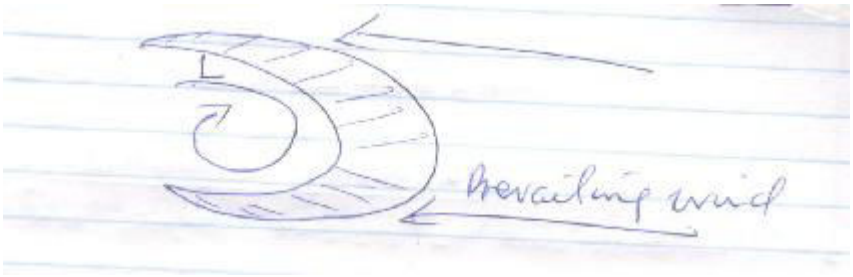
NAME ……ADM. NO……

312/1
GEOGRAPHY
PAPER 1
TIME: $2^{3}/_{4}$ HOURS
FORM THREE
INSTRUCTIONS

1. This paper consists of two sections A and B.
2. Answer all the question in **section A** .In **section B** answer question 6 and any other two questions
3. All the answers should be provided in the answer booklet provided.
4. Use English in answering your questions.

SECTION A

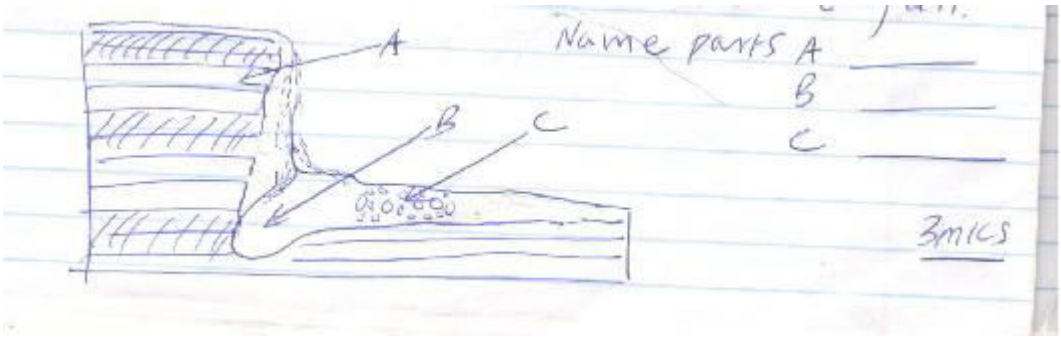
1. a) The diagram shown below shows a barchans. Name the air current marked L (1mk)



b) How is an oasis formed (4mks)

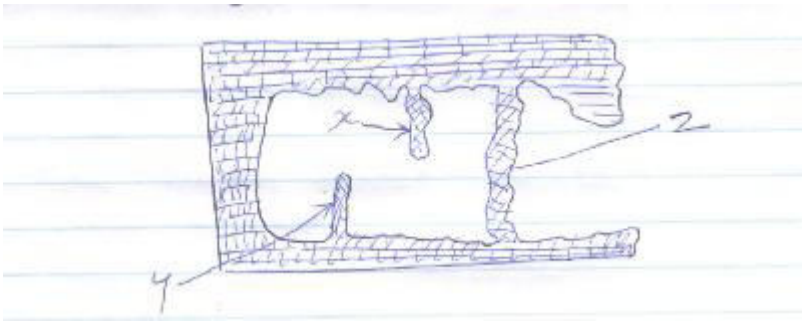
2. a) State **two** factors which influence the occurrence of surface run off (2mks)

b) The diagram below shows a water fall .Name parts A ,B,C



3. a) State **two** factors that influence the formation of features in an area with limestone rocks (2mks)

b) The diagram below shows some features found in a karst scenery . Name the features marked X , Y and Z (3mks)



4. a) What is the difference between an ice-sheet and an ice berg? (2mks)

(b) Name **three** types of glacial moraines (3mks)

5. State **five** factors that influence Mass wasting . (5mks)

SECTION B

Answer Question six and any other two question in the section

6. Study the map of Kitale (1:50,000 sheet 75/3) provided and answer the following questions.

a) (i) Give the six figure grid reference of the school in Kibomet estate (1mk)

(ii) Give the height of cluster settlement of grid square 2926 (1mk)

b) (i) Name **three** natural types of vegetation found in the Kitale map extract (3mks)

(ii) Describe the drainage of the area covered by the map (5mks)

(iii) Name **three** natural features found in grid square 3829 (3mks)

c) (i) Measure the length of the river from grid square 3716 to 3421 .Give your answer in kilometers and metres (2mks)

(ii) Calculate the area enclosed by the dry weather road at Cherangani . Give your answer in km^2 (2mks)

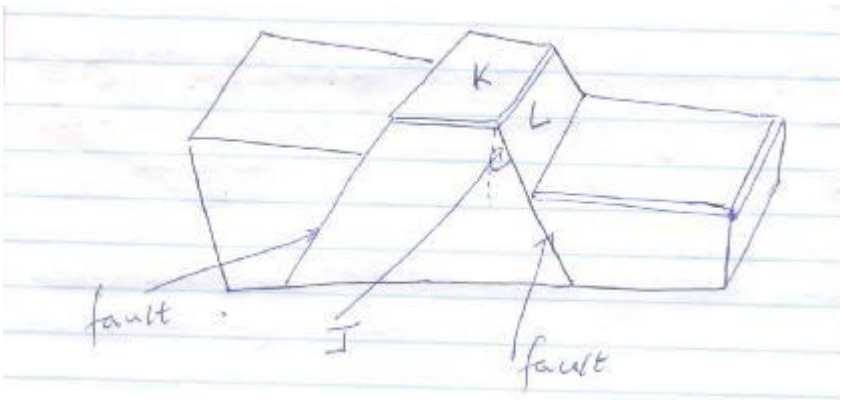
d) (i) Citing evidence from the map , give two economic activities of the people of Kitale (4mks)

(ii) Describe the settlement of the area covered by the map (4mks)

7. a)(i) Name one type of fault (1mk)

(ii) Apart from compressional forces , state **two** other processes that may cause faulting (2mks)

b) The diagram below shows some features formed as a result of faulting .



Identify (i) The angle marked J (1mk)

(ii) The features marked K and L (2mks)

c) (i) Give **three** characteristics of lakes formed due to faulting (3mks)

(ii) Explain **three** ways in which faulting influence drainage (6mks)

d)(i) Apart from the Rift valley , name two other features produced by faulting (2mks)

(ii) Explain any **four** effects of faulting to human activities (8mks)

8. a)(i) Differentiate between weather and climate

(ii) Name **two** elements of weather that can be recorded at a secondary school weather status (2mks)

(iii) Give **three** reasons why the recording of data at a school weather station may be in accurate **(3mks)**

b) (i) Mention any one type of rainfall **(1mk)**

(ii) Why does the air cool as it rises ? **(3mks)**

c)(i) Give **two** factors that influence relative humidity (2mks)

(ii) What is a Stevenson screen (2mks)

d)(i) State **two** conditions that are necessary for siting a weather station (2mks)

(ii) Explain **four** reasons why weather forecasting is important (8mks)

9. a) (i) What is natural vegetation ? (1mk)

(ii) Distinguish between derived and planted vegetation (2mks)

b) (i) Name the temperature grasslands found in the following countries (3mks)

- Canada
- Russia
- Australia

(ii) Give **two** reasons why the Tundra region has scanty vegetation (2mks)

c) Describe the characteristics of Equatorial forests (5mks)

d)(i) List any **four** elements of climate that influence vegetation distribution (4mks)

(ii) Explain **four** main ways that vegetation influences the physical environment (8mks)

10. a)(i) What is the relationship between Geography and chemistry (2mks)

(ii) Apart from planets , name two other members of the solar system (2mks)

(iii) List any **three** areas covered by physical geography (3mks)

b) (i) State **three** characteristics of a planet (3mks)

(ii) Draw a well labeled diagram to show the eclipse of the moon lunar eclipse (3mks)

c)(i) Explain **three** possible consequences of the revolution of the earth on lengths of days and night (6mks)

(ii) Explain the **three** reasons why the interior of the earth is very hot (6mks)

NAME: _____ADM NO_____

CLASS: _____ SIGN_____

HISTORY AND GOVERNMENT

TERM 1 2022

FORM 3

PAPER ONE

311/1

TIME: 2 ½ HOURS

INSTRUCTION TO CANDIDATES

1) Answer All Questions in the Spaces provided
2) All Answers Must be written in English.

SECTION A (25 MARKS)

Answer all questions in this section

1) Define the term anthropology (1mk)

   i).....

2) Name the Kenyan community that had a centralized system of government in Pre-colonial period (1mk)

   i).....

3) Name two communities that belong to the highland Nilotes (2mks)

   i).....

   ii).....

4) State two political functions of the Oloibon (2mks)

   i).....

   ii).....

5) Name the town established as a center for freed slaves in Kenya (1mk)

   i).....

6) Give two non-peaceful methods of resolving conflicts in Kenya (2mks)

   i).....

   ii).....

7) Identify two reasons why Africans moved to towns in colonial Kenya (2mks)

   i).....

ii)……

8) Give the main reason why poll tax was introduced in Kenya during the colonial period (1mk)

i)……

9) Mention two challenges faced by imperial British East Africa Company (2mks)

i)……

ii)……

10) Give two ways in which education has promoted national unity in Kenya (2mks)

i)……

ii)……

11) Why was Wangari Maathai honoured with a Nobel Peace prize? (1mk)

i)……

12) State two grievances of the Taita Hills Association to the colonial government (2mks)

i)……

ii)……

13) What was the main reason for the formation of KADU in 1960 (1mk)

i)……

14) State two problems faced by Nationalists during the struggle for independence in Kenya (2mks)

i)……

ii)……

15) State one survival right of a child in Kenya (1mk)

i)……

16) Give the main function of court of appeal in Kenya (1mk)

i)……

17) Mention one branch of the Kenya Defence Forces (1mk)

i)……

SECTION B (45 MARKS)

Answer all questions in this section

18)a) State five reasons for the migration of the Abagusii into Kenya during the pre-colonial period (5mks)

i)……

ii)……

iii)……

iv)……

v)……

b) Describe the political organization of the Luo during the pre-colonial period (10mks)

i)……

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ii)……

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iii).....

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iv).....

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v).....

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19)a) Give three reasons for the development of international trade between the Kenyan coast and the outside world (3mks)

i).....

ii).....

iii).....

b) Explain six reasons for the coming of Christian Missionaries into Kenya (12mks)

i).....

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ii).....

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iii).....

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iv).....

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v).....

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vi).....

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20)a) Give five factors that undermined the activities of Kenya African Union in the struggle for independence (5mks)

i).....

ii).....

iii).....

iv).....

v).....

b) Describe five roles played by African Elected members organization (AEMO) during the struggle for independence (10mks)

i).....

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ii).....

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iii).....

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iv).....

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v).....

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SECTION C (30 MARKS)

21)a) Give three qualifications of a voter in Kenya (3mks)

i).....

ii).....

iii).....

b) Describe six features of the constitution of Kenya 2010 (12mks)

i).....

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ii).....

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iii).....

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iv).....

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v).....

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vi).....

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22)a) outline the composition of the National assembly in Kenya (3mks)

i).....

ii).....

iii).....

b) Explain six functions of the independent Electoral and Boundaries Commission (IEBC) (12mks)

i).....

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ii).....

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iii).....

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iv).....

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v).....

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vi).....

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NAME _____ADM NO_____CLASS_____

FORM THREE
PAPER 1
HOMESCIENCE EXAM
TIME: 2 $^{1}/_{2}$ HOURS

Instruction.

a. **Ensure that all questions are provided.**
b. **Answer all the questions in the section A and B**
c. **choose any two questions section C.**

SECTION A (ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED) 4

1. Outline three measures necessary for strong and healthy teeth. 3mks

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2. Identify two characteristics of a good bedroom. 2mks

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3. State two ways in which fever can be detected in a baby 2mks

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4. List three problems related to teething in small children. 3mks

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5. Identify three physiological changes in old people that greatly affect their choice of meals. 3mks

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6. Give two points which determine the choice of a pocket to use on a garment. 2mks

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7. In first aid list two food items which can be used to induce vomiting 2mks

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8. State two causes of malnutrition in human beings. 2mks

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9. Give two advantages of dry cleaning clothes. 2mks

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10. State two factors that determine the type of media to use when advertising. 2mks

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11. State 2 advantages of steaming as a cooking method 2mks

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12. Give 2 reasons for discouraging the use of hot water in the cleaning of plain wooden table 2mks

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13. Mention the areas / centers that make up the work triangle in a kitchen. 3mks

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14. List any 4 methods used to finish raw edges in garment construction. 2mks

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15. Give another name for the following vitamins 2mks

a. Ascorbic acid_____

b. Cholecalaferol_____

c. Tocopherol_____

d. Phylloquinoine_____

16.Outline the characteristics' of margarine or butter which make them suitable ingredients for flour mixtures. 2mks

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17. Mention two signs and symptoms of measles. 2mks

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18. Differentiate between conspicuous seams and inconspicuous seams. 2mks

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SECCTION B COMPULSORY QUESTION 20MARKS

19. Your grandmother who is recovering from sickness is coming to stay with you for one month

a. Launder her blood stained white handkerchief. 7mks

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b. clean a plastic dust bin to be placed in her bedroom. 6mks

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c. Outline the procedure to use to clean a flush toilet (water closet) she will use. 7mks

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SECTION C (ANSWER ANY 2 QUESTIONS) 40 MARKS

20a. Explain any 4 problems related to weaning a child 8mks

b Explain any 4 factors that may determine the repair method used on an article 8mks

c. Outline any 4 factors that may affect normal foetal development

21.a. Giving reasons state qualities of a well attached hook and eye

b. Describe 6 characteristics of a well made patch pocket. 6mks

c. suggest six reasons why synthetic detergents are popular for laundry work. 6mks

d. Explain four reasons for using a time plan while performing household tasks. 4mks

22. a. Explain 3 factors that influence Consumer buying 6mks

b. Sketch care labels symbols for each of the following laundry treatment. 4mks

i. drip dry

ii. dry clean

iii. use hot iron

iv. do not bleach

c. Explain six safety precautions to take when handling kitchen equipment 6mks

d. State the 4 main principles of 1^{ST} Aid. 4mks

JINA:----------NAMBARI YAKO:----------

SHULE:---------- SAHIHI:----------TAREHE:----------

102/2

KISWAHILI

KARATASI YA PILI

UFAHAMU, UFUPISHO, LUGHA, ISIMUJAMII

APRILI 2022

MUDA: 2 ½

MTIHANI WA MWISHO WA MUHULA WA TATU: KIDATO CHA TATUI 2018

MAAGIZO

(a) Andika jina lako na nambari yako katika nafasi ulizoachiwa hapo juu.

(b) Tia sahihi yako na uandike tarehe ya mtihani katika nafasi ulizoacha hapo juu

ci) Jibu maswali yote katika karatasi hii.

(d) Andika majibu yako katika nafasi zilizoachwa katika kijitabu hiki cha maswali.

(e) Mtahini ahakikishe kwamba kurasa zote zimepigwa chapa.

Kwa matumizi ya mtahini pekee

	Swali	Upeo	Alama
A	Ufahamu	15	
B	Ufupisho	15	
C	Matumizi ya Lugha	40	
D	Isimujamii	10	
	Jumla	80	

UFAHAMU A: (ALAMA 15)

Soma kifungu hiki kisha ujibu maswali yanayofuata

Zimesalia siku chache kabla ya mitihani ya mwisho wa mwaka pamoja na mitihani ya Kitaifa. Kila mwanafunzi yu mbioni kutimiza malengo yake ya mwaka masomoni. Kwa watahiniwa wa mitihani ya kitaifa, ni fursa ya kudhihirisha matokeo ya jitihada zao za miaka minane, mine, mitatu au miwili(kwa wanafunzi wa vyuo vikuu na vya kadri.

Kawaida ya wanafunzi wa ngazi zote ni kujihakikishia kwamba hakuna cha kuwazuia kuzoa alama wazitakazo mradi wamefanya bidii kabla nay a wakati wa mitihani yao. Imani yao ni sahihi kwa kiasi kikubwa lakini ina upungufu.

Sikusudii kudai kwamba msingi wa matokeo bora si jitihada, la. Jitihada ni muhimu lakini sizo tu msingi wa ufanisi.

Hali nzuri ya kiakili ni muhimu katika maandalizi kwa mtihani ila wengi ama hawajui, hawajali au hupuuza ukweli huu. Hujamsikia mtu akimwambia mwenziwe ikiwa ndiwe ungeniwezesha kufanikiwa afadhali nifeli badala ya kupata msaada wako? Ajabu ni kwamba msemaji hasemi tu hali huwa anamaanisha alisemalo. Je, itakufaa nini kupoteza nafasi mwafaka ya kuimarika kutokana na msaada wa mwenzio kwa sababu ya kutofautiana naye kimsimamo? Japo siasa huitwa mchezo mchafu, maadili tu tunayoweza kujifunza kwayo ni kwamba haina maadui wa kudumu. Uadui ukiwapo, ni wa muda tu na ambao hauvurugi ajenda za kisiasa. Ni radhi kukosolewa kwa hili.

Nakubaliana fika na hekima ya Waswahili kwamba yatupasa kusahau yaliyopita na kuganga yajayo. Uchungu unaoambatana na mafukio ya awali hutuvuta nyuma pakubwa ingawa huwa hatukiri hivyo kwa urahisi.

Kusahau matukio ya awali yaliyotukwaza huimarisha uwezo wetu wa kufanya maamuzi huru. Maamuzi haya hujikita katika dhamiri safi; yaani, hatuyahusishi na kufeli kwetu kwa awali. Tunaiona kila fursa mpya kama iliyo huru na yenye nafasi aali ya kujiendeleza. Unapojiandaa kuukabili mtihani wako wa kitaifa au wa mwisho wa mwaka, jiweke kwenye mizani upya na kuyasahau matokeo yako duni ya awali.

Walimu wako wanapojitolea kukusaidia kuimarisha matokeo yako, usiwavunje moyo kwa kudai huna tumaini tena. Shirikiana nao na kutekeleza kila hatua wanayokupendekezea kwa dhati. Mathalan, mwanafunzi uliyezoa alama duni katika somo la Hisabati na ungependa kuimarika angaa kwa kiasi kidogo, uzingatie wasia wa mwalimu wako bila kutumia alama hiyo duni kama kizingizio.

Unaposahau tofauti za awali baina yako na wenzio unajipa fursa ya kushirikiana nao. Waweza kuwafaa au wakakufaa. Vyovyote iwavyo, ushirika ni muhimu katika kuvumbua mbinu mpya za utatuzi wa migogoro, taaluma, zilizoingizwa kwenye soko la ajira nchini, pengine zinazoambatana na maendeleo ya kiteknolojia, utambuzi wa kipaji chako au cha mwenzio.

Ni kweli kwamba baadhi ya habari muhimu kama vile matangazo ya nafasi za kazi, mabadiliko katika ratiba za mitihani na mengine ya jinsi hii huwa tunazipata kutoka kwa rafiki zetu. Tukiziruhusu tofauti zetu za awali kututawala, tunajitia katika hatari za kupitwa na habari muhimu tunazozifahamu lakini ninazozifahamu lakini zinazofahamika kwa wenzetu.

Tunawathamini sana viongozi wenye uwezo wa kutatua migogoro kwa kuyapa uzito mahitaji yaliyopo wakati wa kutatua mgogoro husika.

Aidha, ni wengi tunaotamani kuwa viongozi wa jinsi hii. Ni sharti tufahamu hata hivyo kwamba kujihini kunahitajika ili kufanikisha azma hii. Inatubidi kujifunza kusahau mambo yanayotukwaza haraka iwezekanavyo

ili kuangaza macho mbele zaidi na kuwa viongozi wa kupigiwa mfano. Ni wenzo muhimu wa kutufanikisha katika shughuli zetu za kila aina.

Jizoeze kumkabili mwenzio tofauti inaibuka kati yenu na kuisuluhisha haraka iwezekanavyo ukiwa umekosea au umekosewa. Kujiingiza katika mashindano ya 'acha tuone nani ndiye nani' ni kupoteza wakati nap engine fursa ambazo zingeimarisha maisha yako pakubwa. Makosa yako ya awali yasiwe kizingiti cha kufikia upeo unaowiana na uwezo wako. Uvue 'ukale' uliougandia na upige hatua za dhati hadi ufike kwenye kileleta hasa cha maisha yako.

Maswali

1. Andika kichwa mwafaka cha taarifa uliyosoma. (ala. 2)

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2. Ni vipi wanafunzi wanaweza kuhakikisha wanajizolea alama wanazohitaji? (alama 2)

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3. Taja mambo mawili muhimu ya kuzingatia ili kupata matokeo bora ya mtihani kwa mujibu wa kifungu?(alama 2)

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4. Thibitisha kauli kwa uadui katika siasa ni wa muda tu. (al. 2)

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5. Kusahau matukio ya awali kuna faida gani? (al. 2)

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6. Toa mifano miwili ya habari muhimu ambazo wanafunzi wanaweza kupata kwa marafiki zao (alama 2)

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7. Mja anafaa kufanyaje tofauti inapoibuka na wenzake? (alama 1)

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8. Eleza maana ya maneno haya kama yalivyotumika katika kifungu. (alama 2)

(i) aali

(ii) Kujihini

SEHEMU B: UFUPISHO (ALAMA 15)

Soma kifungu kasha ujibu maswali yafuatayo

Ni nani asiyejua kuwa Kiswahili ni lugha ya Kitaifa na kimataifa? Basi makinika, Kiswahili ni lugha rahisi inayosemwa na kufahamika na kila adinasi, isitoshe Kiswahili kimeenea na kinatumika na kila mja kote nchini. Lugha ya Kiswahili ina manufaa mengi sio tu kwa waja bali pia kwa taifa kwa jumla. Mathalan, lugha ya Kiswahili imehakikisha kuwepo kwa utangamano baina ya watu wa mataifa. Aghalabu waja hupenda kuhusiana na watu wanaozungumza lugha inayoeleweka. Licha ya hayo, Kiswahili huunganisha mataifa kwani yataelewana kwa urahisi mazungumzoni.

Kando na hayo, Kiswahili hutumika katika mawasiliano. Je, lugha hii imesaidiaje watu katika mawasiliano? Kwa kuwa ni lugha rahisi, waja wengi wamejifunza kuzungumza. Hivyo basi mawasiliano baina ya waja huwa rahisi kwani Kiswahili kinaeleweka na wote.
Juu ya hayo, lugha ya Kiswahili imewezesha habari aina ainati kuwafikia watu. Lugha hii aghalabu hutumiwa katika vituo vya habari. Licha ya kukieneza, hukisaidia kujulikana zaidi na adinasi sufufu.
Isitoshe, lugha hii imewasaidia sana wabunge. Hivi ni kuwa wakiwa bungeni wao hukitumia sana Kiswahili kushiriki mjadala. Kwa njia hii, kando na Kiswahili kuwatangamanisha, kimewasaidia kuelewana kwa urahisi mno.

Wanabiashara nao wanafaidika mno kutokana na Kiswahili. Kupitia kwa Kiswahili, hawapati taabu kamwe kuelewana wenyewe kwa wenyewe. Kando na hayo, Kiswahili huwawezesha wanunuzi na wauzaji kuelewana katika kuuza na kununua.
Lugha ya Kiswahili imechangia pakubwa kuwepo kwa ajira.Kuna njia anuwai amabpo ajira hizi hupatikana. Mathalani walimu na wahadhiri huajiriwa ili kufunza lugha ya Kiswahili. Isitoshe, wachapishaji wengi wa vitabu hupata kazi wanapoajiriwa kuvichapisha vitabu vya Kiswahili.

Kwa kuwa adinasi wengi hawana elimu ya lugha ya Kimombo, Kiswahili hutumiwa kuwasilisha ujumbe. Aghalabu, wanasiasa hukitumia Kiswahili katika kampeni zao . Juu ya hayo, Kiswahili hutumika kwenye mikutano ya hadhara kuelimisha watu.
Ni dhahiri kuwa hakuna mja razini anayependa ukabila. Kiswahili nacho kimesaidia kuondoa ukabila. Kiswahili ni lugha rahisi inayoweza kusemwa na yeyote. Pindi watu wa makabila tofauti wanapokutana, hawategemei lugha ya mama bali utangamano huhimizwa.
Fauka ya hayo, Kiswahili ni lugha inayofunzwa na kutahimizwa. Hufunzwa kwa kutumia silabasi hivyo basi kuwahimiza waja kukienzi. Kinapotahiniwa, humpa mwanafunzi ari ya kukipita kwani Kiswahili ndicho mwongozo dira wa maisha.
Waandishi wengi hutumia lugha ya Kiswahili ili kuwasilisha ujumbe wao. Hii si kwa sababu nyingine bali kuwa ujumbe utaeleweka upesi. Hivyo basi wao huchukua fursa wanayopewa na lugha hii ili kuwaelimisha. Kuwashauri na hata kuwaonya waja juu ya mambo anuwai.

Jamani Kiswahili kitukuzwe kwani ni lugha ya taifa. Ningependa kuwahimiza vijana wenzangu wakienzi na kukiinua Kiswahili. Wawe katika mstari wa mbele katika kuhakikisha kuwa Kiswahili kinadumishwa kote.

Bila kusahau, ningependa kuwashauri waepukane na lugha ya ‘sheng’. Lugha hii simo inaathiri Kiswahili mno kwani kuchipuka kwake kunadunisha Kiswahili. Aidha ningependa kuwasihi nyote mshirikiane kukieneza Kiswahili. Chambilecho wahenga, kinga na kinga ndipo moto uwakapo. Naam! Kiswahili Kitukuzwe.

Maswali

(a) Fupisha aya tatu za mwanzo kuonyesha umuhimu wa Kiswahili. (maneno 35 – 40) (alama 7, alama 2 za utiririko)

Matayarisho

Jibu

(b) Andika kwa muhtasari mambo muhimu katika aya ya mwisho. (Maneno 30 – 35) (alama 5, alama 1 ya utiririko)

Matayarisho

Jibu

SEHEMU C: MATUMIZI YA LUGHA (ALAMA 40)

1(i) Kimandende hutamkiwa wapi? (alama 1)

(ii) Eleza tofauti iliyopo kati ya sauti / K / na / g/ (alama 2)

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2. Eleza miundo ya silabi za neno lifuatalo (alama 2)

Udhaifu

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3. Onyesha mofimu katika neno lifuatalo. (alama 3)

Waliopewa

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4. Eleza matumizi ya 'ki' katika sentensi ifuatayo. (alama 2)

Mama na kitoto wamekuwa wakila wakiimba kikasuku. (alama 2)

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5. Tumia 'O' rejeshi tamati katika sentensi hii. (alama 2)

Vitabu ambavyo anapata ni vile vinapendeza.

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6. Huku ukitoa mifano fafanua miundo minne ya ngeli ya U-ZI (ala. 2)

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7. Kanusha (alama 1)
   Naimba nikilala.

---

8. Andika kinyume cha sentensi hii. (alama 3)
   Shangazi aliingia ndani na kumfungia mtoto nguo haraka.

---

9. Andika katika ukubwa (alama 2)
   Kiti kilichokuwa kimebebwa na mvulana kilivunjika.

---

10. Maneno yaliyopigiwa mstari ni ya aina gani? (alama 2)
(a) Mkulima <u>mganga</u> ametabiri baraka.

(b) <u>Mganga</u> mzee ametabiri baraka.

---

11. Uunda vitenzi kutoka kwa majina . (alama 2)

(i) Mtukufu

(ii) Mchumba

---

12. Bainisha vishazi katika sentensi. (alama 2)
Gari lililoibiwa jana limepatikana.

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13. Tambua kirai kilichopigiwa mstari katika sentensi hii. (alama 1)
Watu wenye woga mwingi hukimbia ovyo.

---

14. Tambua matumizi mawili ya alama ya kibainishi. (alama 2)

---

15. Onyesha shamirisho katika sentensi ifuatayo. (alama 2)
Mtoto alisomewa barua na nyanya.

---

16. Andika katika usemi halisi. (alama 2)
Mama alisema kuwa angewatembelea kwao mwezi ambao ungefuata.

---

17. Geuza vitenzi ulivyopewa kuwa katika kauli zilizo kwenye mabano. (alama 2)
(i) Ficha (kutendana)

(ii) Fumba

---

18. Changanua sentensi ifuatayo ukitumia jedwali. (alama 3)
    Juma, Suleimani na Joshua wamefurahi kupita mtihani.

19. Eleza maana mbili za neno somo. (alama 2)

SEHEMU D; ISIMUJAMII (ALAMA 10)

Jadili mikakati iliyowekwa kukua kwa Kiswahili nchini baada ya uhuru.

NAME …….. **ADM NO** ……..**CLASS** …… **DATE** ……
CANDIDATE'S SIGNATURE ……..
121/2
MATHEMATICS
PAPER 1

FORM 3

APRIL 2022

TIME: $2\frac{1}{2}$ **HOURS**

MATHEMATICS PAPER 1

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES

1. *Write your name and index number in the spaces provided at the top of this page.*
2. ***Sign and write the date of examination in the space provided above.***
3. *The paper consists of two sections:* ***Section I and Section II.***
4. *Answer* ***all*** *questions in* ***section I*** *and* ***Only five questions*** *from* ***Section II.***
5. *All answers and working must be written on the question paper in the space provided below each question*
6. *Show all the steps in your calculation, giving your answers at each stage in the spaces below each question.*
7. *Marks may be given for correct working even if the answer is wrong*
8. *Non- programmable silent electronic calculators* ***and KNEC*** *Mathematical tables may be used, except where stated otherwise.*
9. *Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no question is missing.*
10. *Candidates should answer the questions in English*

FOR EXAMINERS USE ONLY

SECTION I

Question	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**TOTAL**
Marks																	

SECTION II

Question	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**TOTAL**
Marks									

Grand Total

SECTION I (50 MARKS)
Answer all questions in this section

1. Without using tables or calculator, evaluate (3marks)

$$\sqrt{\frac{0.114\times0.0575}{2.7\times0.38\times0.23}}$$

2. Given that $9^{2y} \times 2^{x} = 72$, find the values of $x \; and \; y$ $(3marks)$

3. John mixes 100cm^3 of lime of density 1200kg/m^3 and 90g oil of density 0.9g/cm^3. Calculate the density of the mixture in g/cm^3. (4marks)

4. An Isosceles triangle ABC has length AB=AX= 9cm and BC=12 cm. Find the area of the triangle correct to 2 decimal places (3mark)

5. The ratio of the interior to exterior angle of a regular polygon is 9:1. Find the number of sides of the polygon (2mks)

6. Use logarithms to **evaluate** (4mks)

$$\frac{16.49^2 \times \sqrt[3]{0.6329}}{438.2}$$

7. A line k is parallel to a line L whose gradient is $-\frac{3}{2}$ and passes through the point (1, 0), write down the equation of k leaving your answer in the form $\frac{x}{a}+\frac{y}{b}=1$ (3marks)

8. An angle of 1.8 radians at the center of the circle subtends an arc of length 23.4cm .find the radius of the circle. (2marks)

9. A garden is in the shape of a right angled triangle. The length of the shortest side is 17 m and the area of the garden is 346.8m^2 . Calculate the length of the longest side of the garden. (3 Marks)

10 Find the integrals that satisfy the inequality (3 marks)

$2x+3 \geq 5x-3 > -8-2x$

11. A hollow cylindrical object is 80metres long. The inner radius is 3cm and the outer radius is 3.5cm.
    a) Calculate the volume of the material used to make this hollow cylindrical object (take $\pi = 3.142$ $(2marks)$

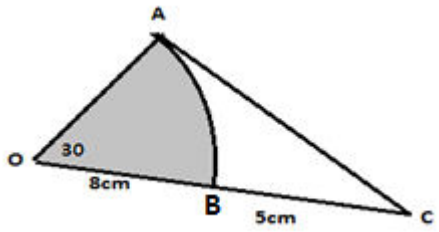
    b) if the density of the material used to make the hollw object is $1.5\ g/cm^3$ find the mass of the material in kilograms (2 marks)

12. A Kenyan bank buys and sells foreign currencies at the exchange rates shown below

	Buying	Selling
	Kshs	Kshs
1 Euro	147.56	148.00
1 US Dollar	74.22	74.50

An American arrived in Kenya with 20,000 Euros. He converted all the Euros to Kenya shillings at the bank. He spent Ksh 2,510,200 while in Kenya and converted the remaining Kenya shillings into US dollars at the bank. Find the amount in Dollars that he received. (4mks)

13. In the figure below AB is an arc of a circle center O. Given that the angle AOC = 30^0, OA=OB=8cm and BC=5cm, Calculate the area of the un-shaded region (3 marks)

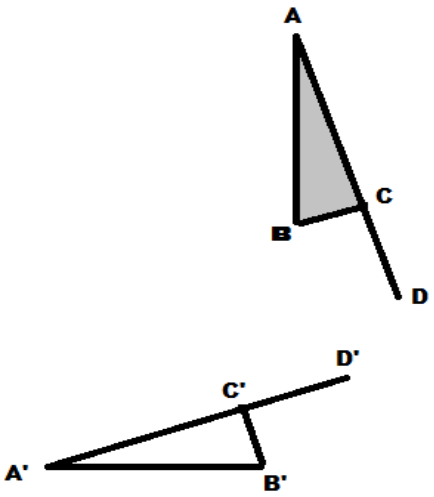


14. Given the column vectors $\tilde{a}=\begin{pmatrix}2\\1\\-2\end{pmatrix}$, $\tilde{b}=\begin{pmatrix}-3\\4\\-1\end{pmatrix}$ and $\tilde{c}=\begin{pmatrix}-5\\3\\2\end{pmatrix}$ and that $\tilde{p}=3\tilde{a}-\tilde{b}+2\tilde{c}$

i) Express $\tilde{p}$ as a column vector (2marks)

ii) Find the magnitude of $\tilde{p}$ (2marks)

15. In the figure below, ABCD is the image of A'B'C'D' under a rotation



a) Identify the centre of rotation (1 mark)

b) Find the angle of rotation (1 mark)

16. Use substitution method to solve the simultaneous equation. (3mark)

$5x+2y=1$

$8x+3y=1$

SECTION B (50 Marks)
Answer ONLY five questions in this section.

17. A straight line L1 has a gradient $\frac{-1}{2}$ and passes through point $P(-1\ ,3)$. another line L2 passes through points $Q(1,-3) and\ R(\ 4,5).\ Find$

a) The equation of L1 (2marks)

b) The gradient of L2 (2marks)

c) The equation of L2 (2marks)

d) The equation of a line passing through a point S (0, 5) and perpendicular to L2 (3marks)

e) The equation of a line through R parallel to line L1 (2marks)

18. Patients who attended a clinic in one week were grouped by age as in the table

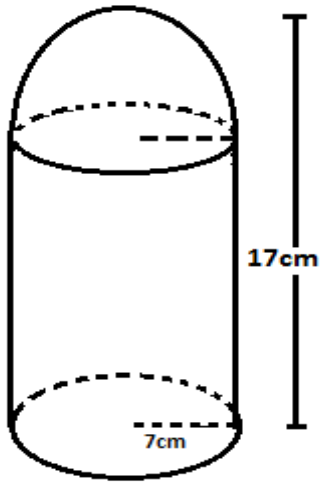
Age years	$0 \le x < 5$	$5 \le x < 15$	$15 \le x < 25$	$25 \le x < 45$	$45 \le x < 75$
No. of patients	14	41	60	70	15

(a) Estimate the mean age (4marks)

(b) Estimate the median age (3 marks)

(c) Draw a histogram to represent the distribution. (3amrks)

19. The figure below shows a solid which is a hemisphere and a cylinder. The base radius of the cylinder is 7cm and the height of the solid is 17cm.



a) by taking $\pi = \frac{22}{7}$ find

i) The volume of the solid (4 marks)

ii) The total surface area of the solid (4marks)

b) Given that the density of material of which the solid is made is 800kg/m^3

Calculate the mass of the material used (2marks)

20. In a triangle ABC, AB= 17cm, BC= 28cm and AC= 34cm

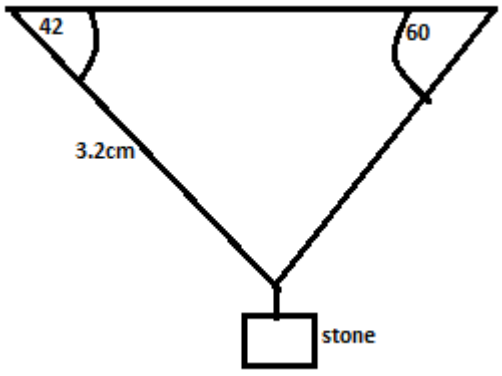
Find

a i) Angle BAC (3marks)

ii) Using the angle BAC in a (i) above, find the area of triangle ABC (2marks)

iii) The radius of its circum-circle that can be drawn on the triangle. (2marks)

b) A stone is hung from a horizontal beam by two strings. The longer string makes an angle of 42^0 with the horizontal and is 3.2m long. If the shorter string makes an angle of $60^0$with the horizontal, Calculate its length (3marks)



21. A helicopter is stationed at an airport H on a bearing of 060^0 and 800km from another airport P. A third airport J is on a bearing of 140^0 and 1200km from H.

a) Using a scale of 1cmrep. 200km.

i) Show the relative positions of P, H and J (3mks)

(i) Determine the distance between P and J. (2mks)

(ii) State the bearing of P from J. (2mks)

b) Calculate the area PJH (3marks)

22. Given the simultaneous equations

$$5x + y = 19$$
$$-x + 3y = 9$$

a) Write the equations in matrix form. Hence solve the simultaneous equation by matrix method (5marks)

b) Find the distance of the point of intersection of a line $5x + y = 19$ and $-x + 3y = 9$ from the point $(11, -2)$ (2marks)

c) Determine the value of x for which the matrix below has no inverse

$$\begin{pmatrix} 2x & x^2 \\ 2 & 1 \end{pmatrix}$$ (3marks)

23. A number of students decided to contribute shs 800. They agreed to contribute equal amount of money. Later for students withdrew hence each of the remaining students had to contribute sh 10 more to reach the target. Taking the original number of students to be x .

a) Write an expression in x for

i) Initial contribution of each student (1 mark)

ii) Contribution of each student after the four withdrew (1 mark)

iii Form an equation in x and use it to find the number of students who were initially there (4marks)

iv) The amount of money each student contributed after some withdrew (1 mark)

b) After reducing by x cm the length and width of a rectangle which were originally 8cm and 5cm respectively, the area of the new rectangle is $18cm^2$, find the dimensions of the new rectangle. (3marks)

24. using a ruler and a pair of compasses only construct.

a) A line PQ, 8cm long. On the line construct triangle PQR such that $\angle$ QPR = 75^0 and line PR = 7cm. measure line QR (4mks)

b) Construct a Circum-circle of triangle PQR and measure its radius. (3mks)

c) Calculate the difference in area between the circle and triangle PQR. (3mks)

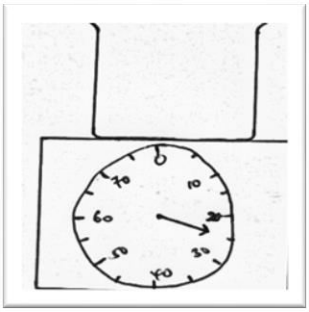
NAME ……..... **ADM NO** ……**CLASS** …… **DATE** ……

CANDIDATE'S SIGNATURE ……..

232/1
PHYSICS
PAPER 1
FORM 3
APRIL 2022
TIME: 2 HOURS

SECTION A (25 MKS)

1. The figure below shows an empty beaker on top of a pan calibrated in grammes. 50 ml of alcohol of density 0.8g/cm^3 was added to the beaker.



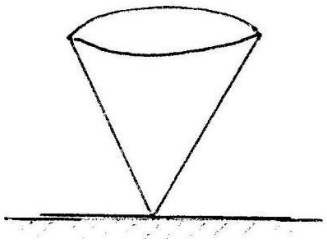
Show on the diagram the new position of the pointer. (3mks)

2. A steel needle placed carefully on the surface of water can be made to float. However its observed that when detergent is added to the water the needle sinks. Explain this observation (2mks)

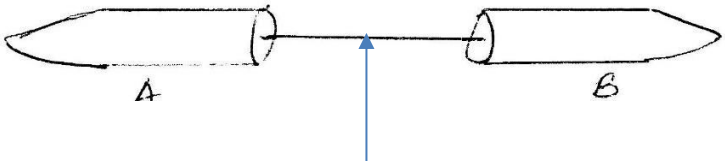
3. Explain why air is not used as a brake fluid. (1mks)

4. Name two adaptation that can be made to a liquid in glass thermometer to make it more sensitive (2mks)

5. State the type of equilibrium for the body shown in the figure below. (1mk)

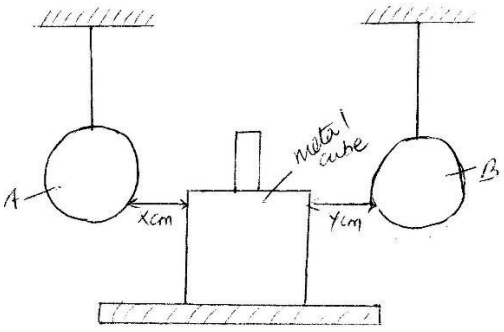


6. Two candles A and B of equal lengths and thickness are joined together and balanced horizontally as shown in the diagram.



Candle A is lit. State and explain what happens after a short time (1mk)

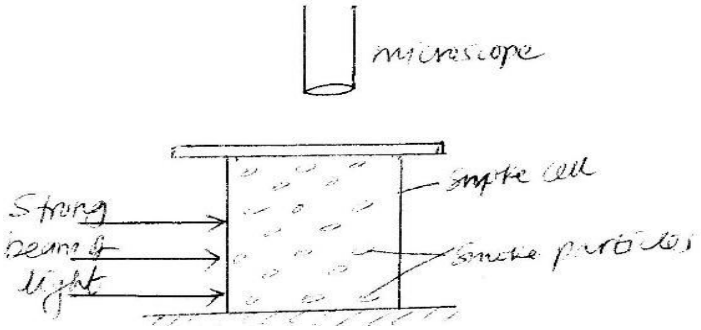
7. Figure below shows two identical balloons A and B. The balloons were filled with equal amount of the same type of gas. The balloons are suspended at a distance X and Y from a metal cube filled with boiling water and placed on an insulating material. Use this information to answer questions that follows.



a) State the mode of heat transfer from the metal cube to the balloons (1mk)

b) Face of cube towards A is bright and shiny and face towards B is dull/black. State with a reason the adjustments that should be made on the distances x and y so as to maintain the same rate of change of temperature in both balloons. (2mks)

8. Figure below shows apparatus used to observe the behavior of smoke particles in a smooth cell.



a) State what is observed. (1mk)

b) Explain your observation (1mk)

c) State what happens if the temperature was raised. (1mk)

9. a) An oil drop of volume $10 \times 10^{-12} m^3$ forms a circular film of area $5 \times 10^{-3} m^2$ on a clean water surface. Estimate the size of the oil molecule. (3mks)

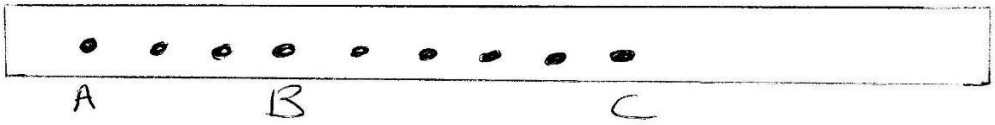
b) State one assumption made in (a) above (1mk)

10. a) State Charles law (1mk)

b) The volume of the gas at 20^oC was found to be $100\ cm^3$. What would be its volume at 40^oC (3mk)

Section B (55mks)

10. The figure below shows dots which were made by a ticker tape attached to a trolley on a runway.



If the frequency of the ticker timer was 60HZ, distance AB = 12cm and BC = 7.2cm,
Determine

i) The average velocity between AB

ii) The average velocity between BC

iii) The acceleration of the trolley. (2mks)

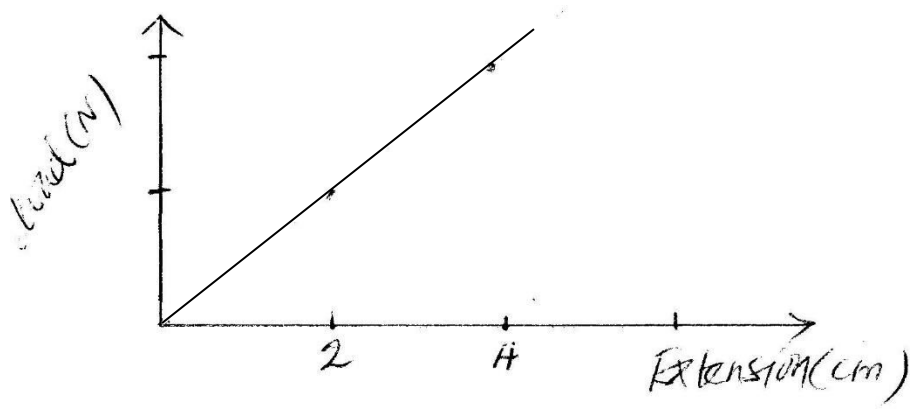
b) An object is projected horizontally with a velocity of 40m/s from the top of a cliff 100m above the ground. Taking g = 10m/s^2

i) Calculate the time taken for the object to hit the ground. (2mks)

ii) What is the range of the object from the foot of the cliff? (2mks)

11. State Hooke's law. (1mk)

b) The graph below shows how extension, e of a helical spring varies with load, F hanging on it.



i) Determine from graph, the spring constant (2mks)

ii) State two factors that affect the spring constant (2mks)

12. a) State Newton's first law of motion. (1mk)

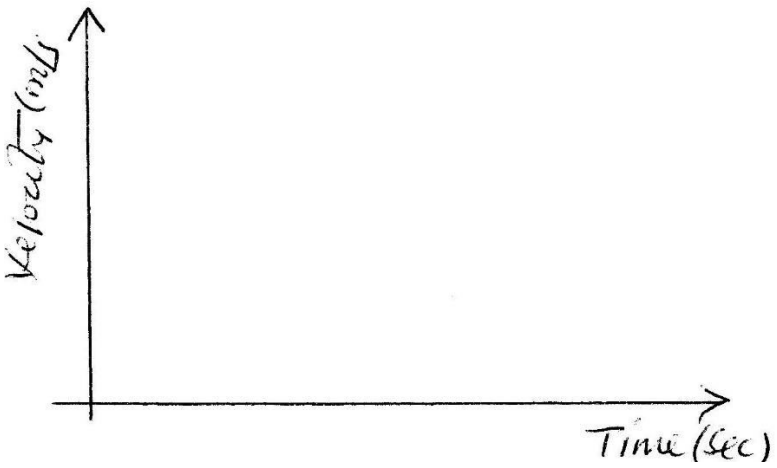
b) A bus of mass 5000kg and a car of mass 1200kg are both travelling on a dual carriage way at the same velocity. If both drivers apply same breaking force, state with reason which one will come to stop first? (2mks)

c) A driver driving a car of mass 1200kg at a constant speed of 72 Km/hr is flagged down by a traffic police officer from a distance of 145m. It takes him 2 seconds to react to the police signal and brings the car to rest by applying a constant breaking force for 10 seconds.
Determine;

i) the minimum stopping distance (3mks)

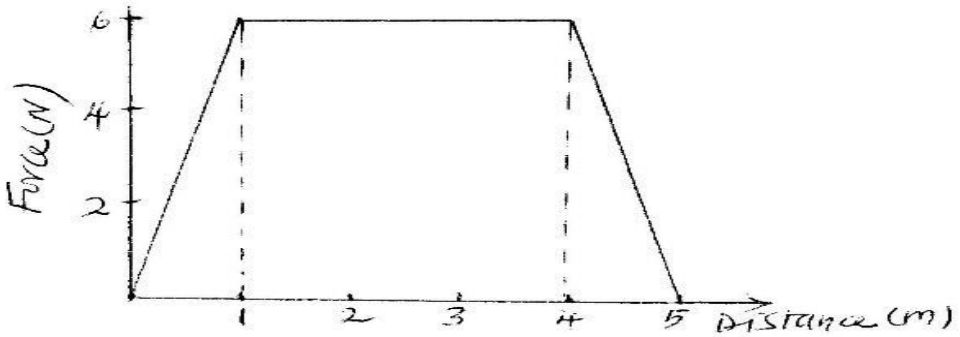
ii) State whether it will hit the traffic officer or not. (1mk)

d) i) On the axes provided, sketch a velocity – time graph for a body projected vertically upwards up to the time it attains maximum height (1mk)



ii) A stone is projected vertically upwards with a velocity of 15m/s determine the maximum height it reaches. (2mks)

13. a) The figure below shows variable force acting on an object.



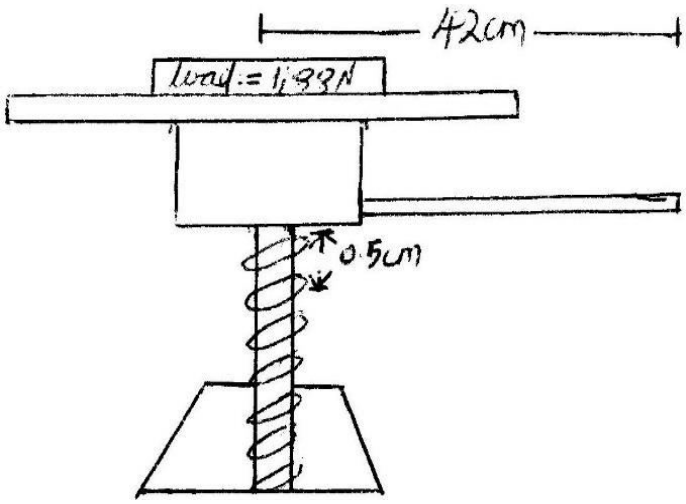
Find the total work done by force. (3mks)

b) A car travelling at a speed of 72 Km/hr is uniformly retarded by application of brakes and comes to rest after 8 seconds. If the car with its occupants has a mass of 1250kg, calculate the

i) Braking force (3mks)

b) ii) Work done in bringing the car to rest (2mks)

c) The handle of the screw-jack in the figure below is 42cm long and the pitch of the screw is 0.5cm.

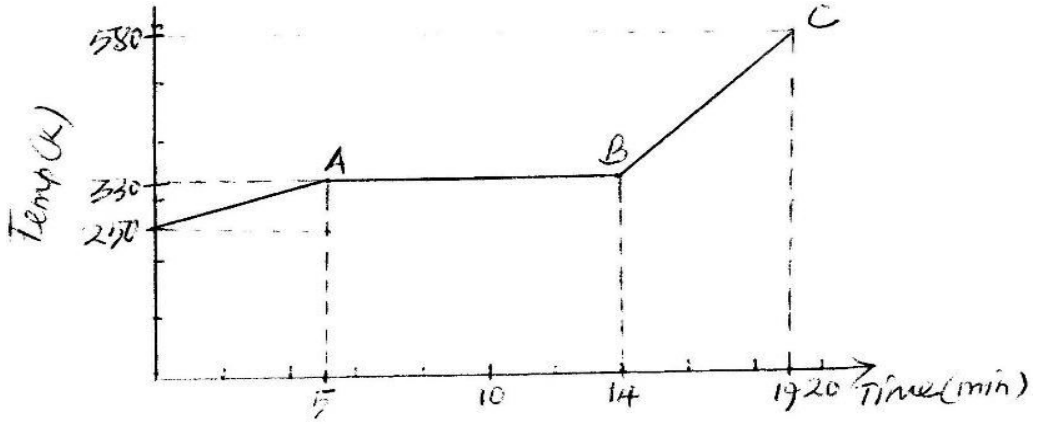


i) Calculate the velocity Ratio (VR) of the screw jack (2mks)

ii) Calculate the effort needed to lift the load of 1188N (2mks)

14. a) State two differences between boiling and evaporation. (2mks)

b) 500g of a solid was uniformly heated by 0.2 kW heaters for some time. The graph in the figure below shows how the temperature of the solid changed with time.



i) Explain what is happening between points
0 - A (1mk)

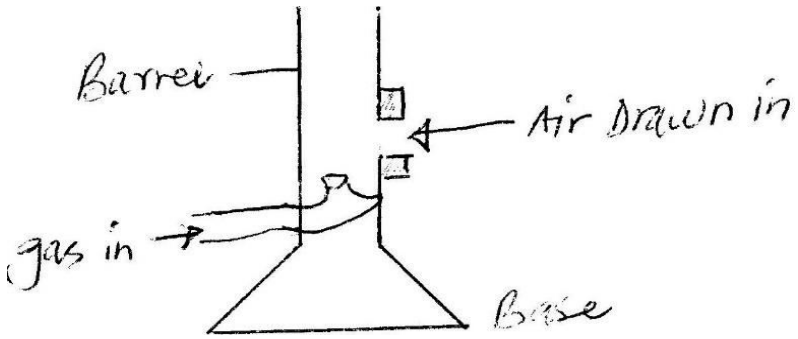
A- B (1mk)

ii) Determine the specific heat capacity of the solid. (3mks)

iii) Determine the specific latent heat of fusion (L_f) of the solid. (3mks)

15. a) State Bernoulli's Effect. (1mk)

b) The diagram below shows the parts of a Bunsen – burner.



i) Describe how the Bunsen burner works in relation to Bernoulli's Effects. (3mks)

ii) Define stream line flow (1mk)

c) Water flows through a pipe of varying cross-section area. One end of the pipe is $10cm^2$ and water flows at this point at a velocity of 0.5m/s. Determine the cross-section area of the other end if water flows at the end at 0.2m/s. (3mks)