FORM 4 ENDTERM 1 EXAMS

ALL SUBJECTS

Compilation of Standard set of End-Term 1 Questions for the Current Class.

SUBJECTS TESTED;

Mathematics, English, Kiswahili, Biology, Chemistry, Physics, CRE, Geography, History, Business Studies, Agriculture, Home Science & Computer Studies.

SERIES 1

For Marking Schemes

Mr Isaboke 0746 222 000 / 0742 999 000

MWALIMU CONSULTANCY

FORM 4 ENDTERM 1 EXAMS

SERIES 1

BIOLOGY

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:

1. ***Answer ALL the questions***
2. ***Answers should be written in the spaces provided***

1. State the functions of each of the following organelles: **(2mks)**

a) Plasma membrane

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b) Ribosome

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2. (a) State **two** ways by which leaves of plants are adapted to gaseous exchange. **(2mks)**

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b) State a function of aerenchyma tissue. **(1mk)**

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3. How do identical and fraternal twins arise?

i) Identical **(2mks)**

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ii) Fraternal **(1mk)**

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4. State **three** functions of an exoskeleton. **(3mks)**

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5. What is meant by destarching a leaf? **(1mk)**

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6. State **two** ways in which sunlight increases the rate of transpiration. **(2mks)**

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7. List **two** features of flowers that attract insect pollinators. **(2mks)**

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8. (a) State **two** adaptations of pelvic girdle to its functions. **(2mks)**

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b) Name the type of joint found between the femur and pelvic girdle. **(1mk)**

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9. The table below shows some nutrients, their sources and disease caused by their deficiencies in man. Complete the table. **(2mks)**

Nutrient	**Source**	**Deficiency disease**
Iron		
		Night blindness

10. (a) Give **two** ways in which red blood cells are adapted to carry out their functions**.** **(2mks)**

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(b) Name chemical forms in which carbon IV oxide is transported in the human body**.** **(2mks)**

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11. Name any **two** divisions of the kingdom plantae. **(2mks)**

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12. a) Name the hormone produced in human body when one takes in a large amount of water.**(1mk)**

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(b) What disease results from the inadequate production of the hormone in 12(a) above? **(1mk)**

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13. A cow in a paddock was found to be infected with ticks. State the trophic level occupied by the **(2mks)**

a) i) Cow.....

ii) Tick.....

b) Give **one** disadvantage of using pesticide to eliminate the ticks. **(1mk)**

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14. What is the role of water in germinating seeds? **(2mks)**

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15. (a) State **two** limitations of fossil records as an evidence for organic evolution theory. (2mks)

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(b) State an ideal that led to the formulation of larmacks theory of evolution. **(1mk)**

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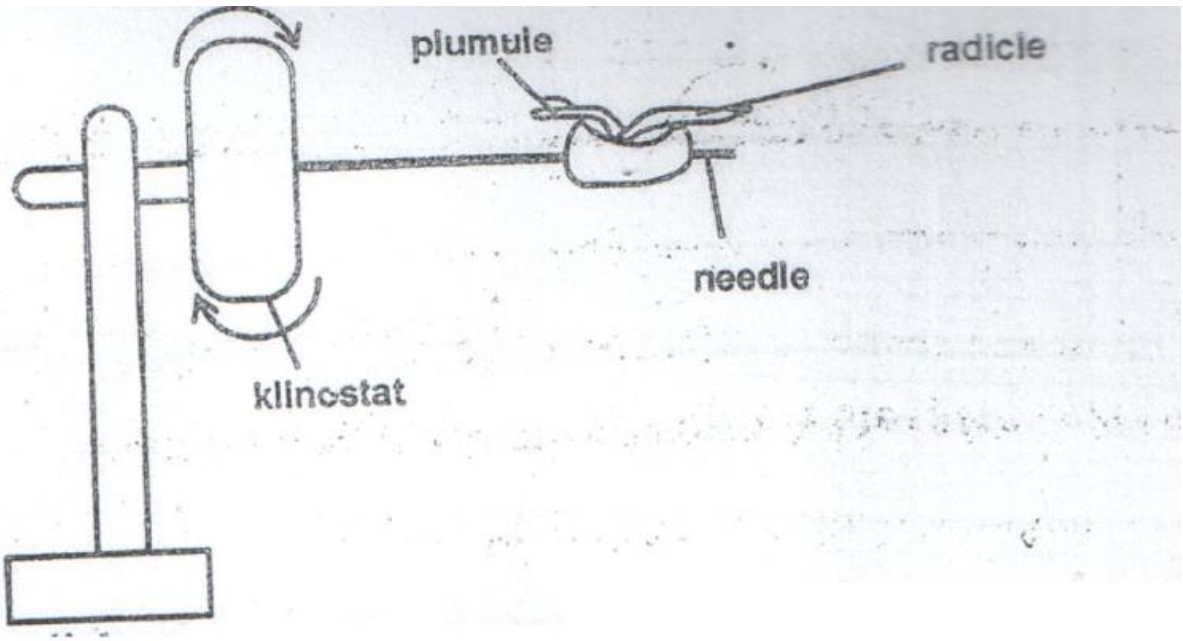
16. Study the figure below.



A seedling with straight radical and plumule was attached to rotating Klinostat as shown above.

a) Draw the appearance of the seedling after three days. **(1mk)**

b) Explain your observations (a) above. **(2mks)**

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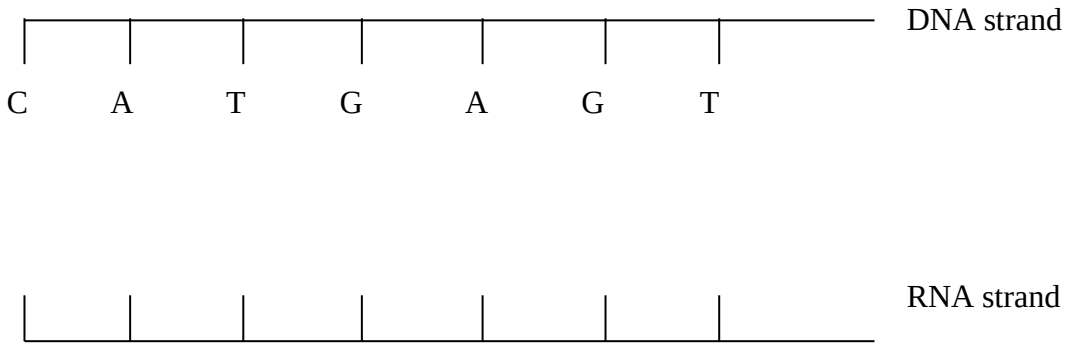
17. (a) Write the base sequence of MRNA that would be coded from the DNA strand shown below. **(2mks)**



(b) How many nitrogenous bases code for a single amino acid? **(1mk)**

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18. Why are animal cells put in isotonic solution when performing an experiment? **(2mks)**

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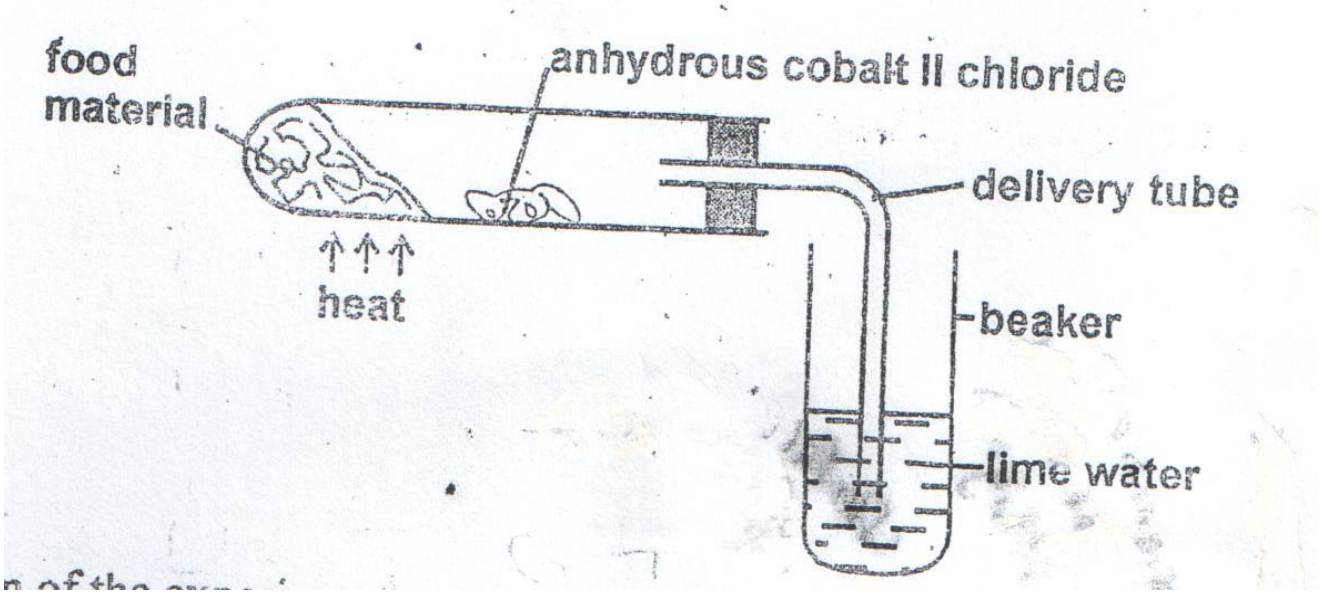
19. Study the diagram below



a) Suggest the aim of the experiment. **(1mk)**

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b) Account for the results observed at the end of the experiment. **(2mks)**

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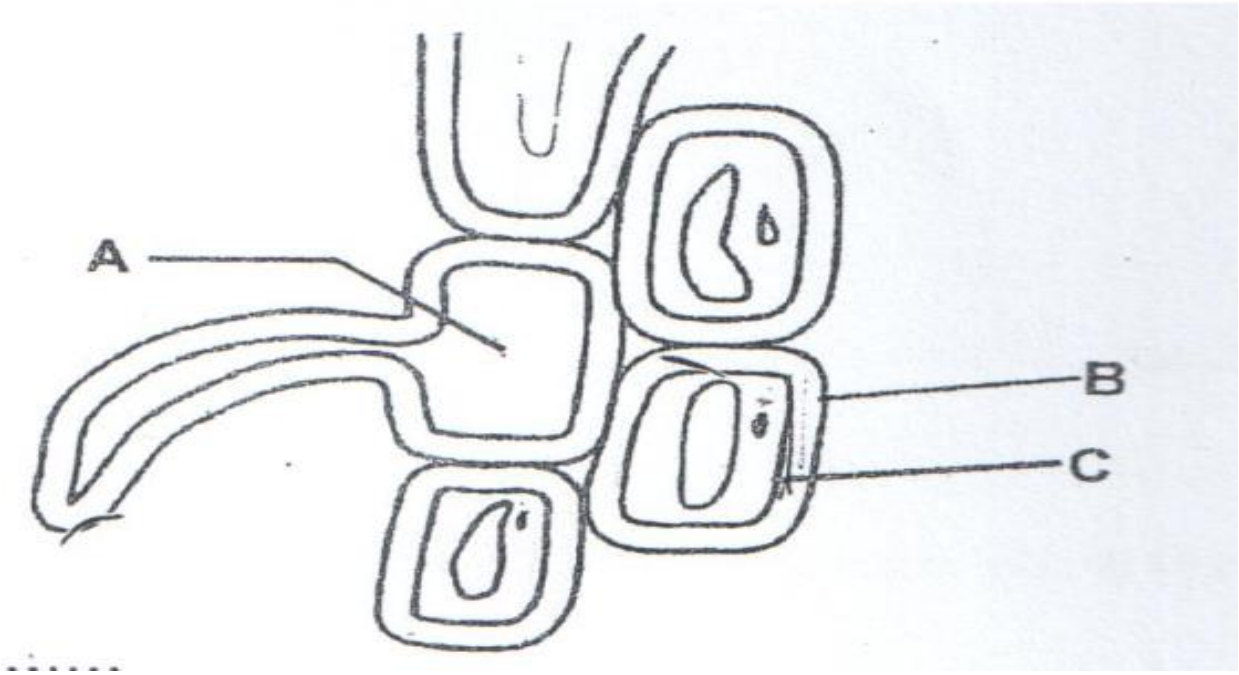
20.



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

A – …….....……

B - …….....

C - …….....

(b) Name the process by which water passes from the soil to the part labeled A. **(1mk)**

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21. State role of the following bacteria in the nitrogen cycle. **(3mks)**

a) Nitrosomonas.....

b) Nitrobacter.....

c) Azotobacter.....

22. Explain the importance of each of the following during digestion in man.

a) Teeth..... **(1mk)**

b) Saliva .....**(1mk)**

23. (a) Distinguish between prokaryotic and eukaryotic cells. **(2mks)**

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b) Name one kingdom with:

i) Prokaryotic cells .....**(1mk)**

ii) Eukaryotic cells.....**(1mk)**

24. What would blood gain on passing through each of the following organs:

i) The lungs.....**(1mk)**

ii) Active muscles.....**(1mk)**

25. State **two** main characteristics of organisms in kingdom fungi. **(2mks)**

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26. State **two** adaptations of fruits dispersed by wind. **(2mks)**

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27. (a) Describe how white blood cells fight against infection. **(2mks)**

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(b) A drop of a person's blood shows clumping with the anti-B serum but not with anti-A serum. State the person blood group. **(1mk)**

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28. Calculate the diameter of the cells in micro-metre given that the diameter of the field of view is 3mm and that they are 10 cells across the field of view, the total magnification was 100x. **(2mks)**

29. (a) Apart from AIDs, name **one** diseases of the reproductive system in man that is caused by viruses. **(1mk)**

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(b) State **one** way by which HIV/AIDs is transmitted from mother to child. **(1mk)**

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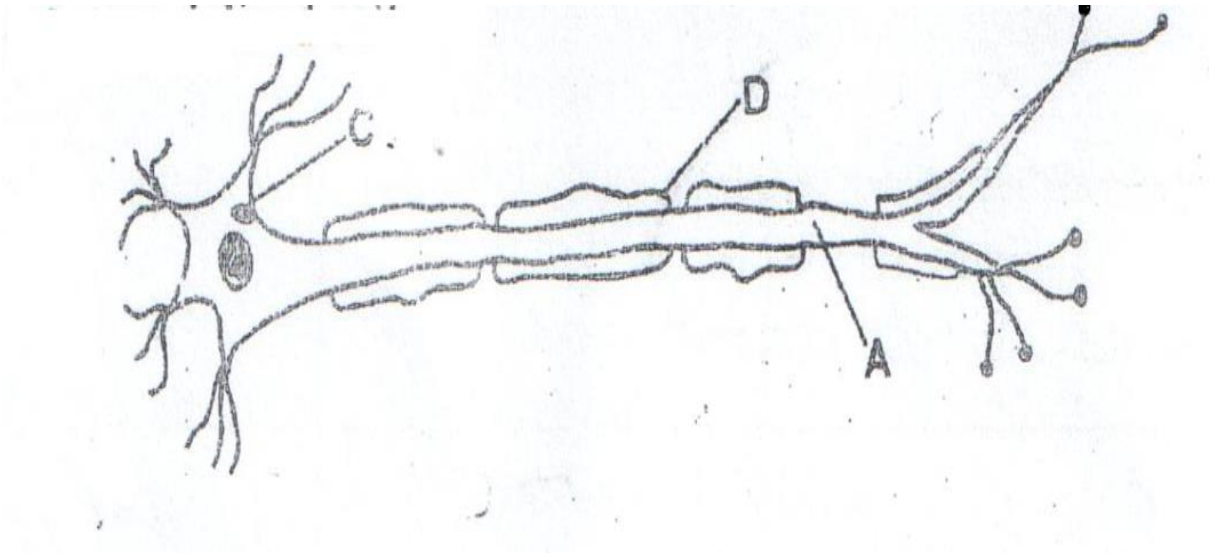
30. Below is a diagram of a specialized cell:



i) Name parts **(2mks)**

A .....

C .....

ii) What is the role of part D? **(1mk)**

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31. State two roles of progesterone. **(2mks)**

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32. What is parthenocarpy? **(1mk)**

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End

FORM 4 ENDTERM 1 EXAMS

SERIES 1

BIOLOGY

PAPER 2

TIME: 2 HOURS

NAME……. ADM NO; ……..

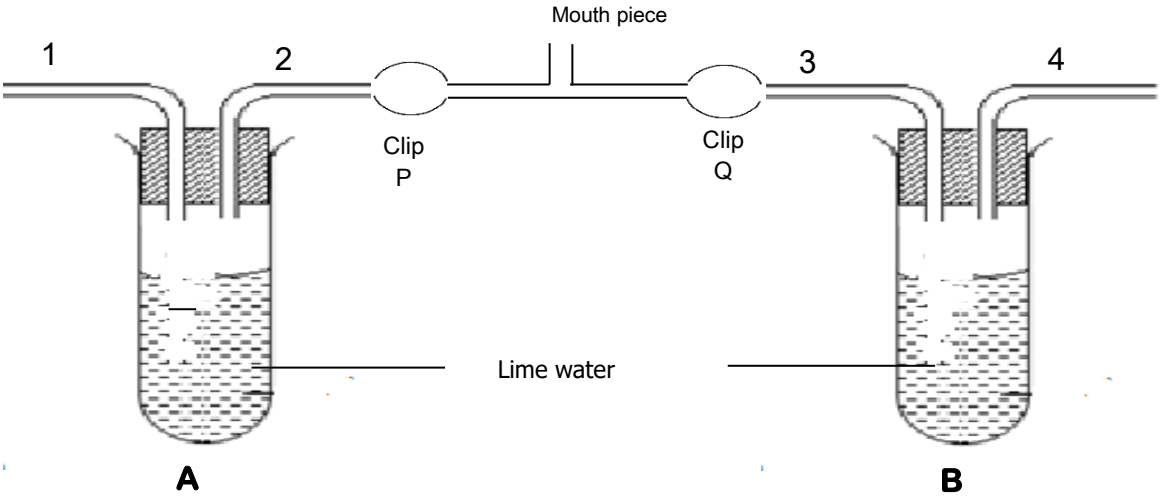
CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:

- *Answer **ALL** the questions*
- *Answers should be written in the spaces provided*

SECTION A: (40 MARKS)

1. The following set up was set for the form two class to study a certain concept.



a) Point out **one** mistake in the set-up and correct the mistake on diagram. **(2mks)**

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b) State the aim of the experiment. **(1mk)**

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c) Explain how the apparatus is used to achieve the aim of the experiment. **(5mks)**

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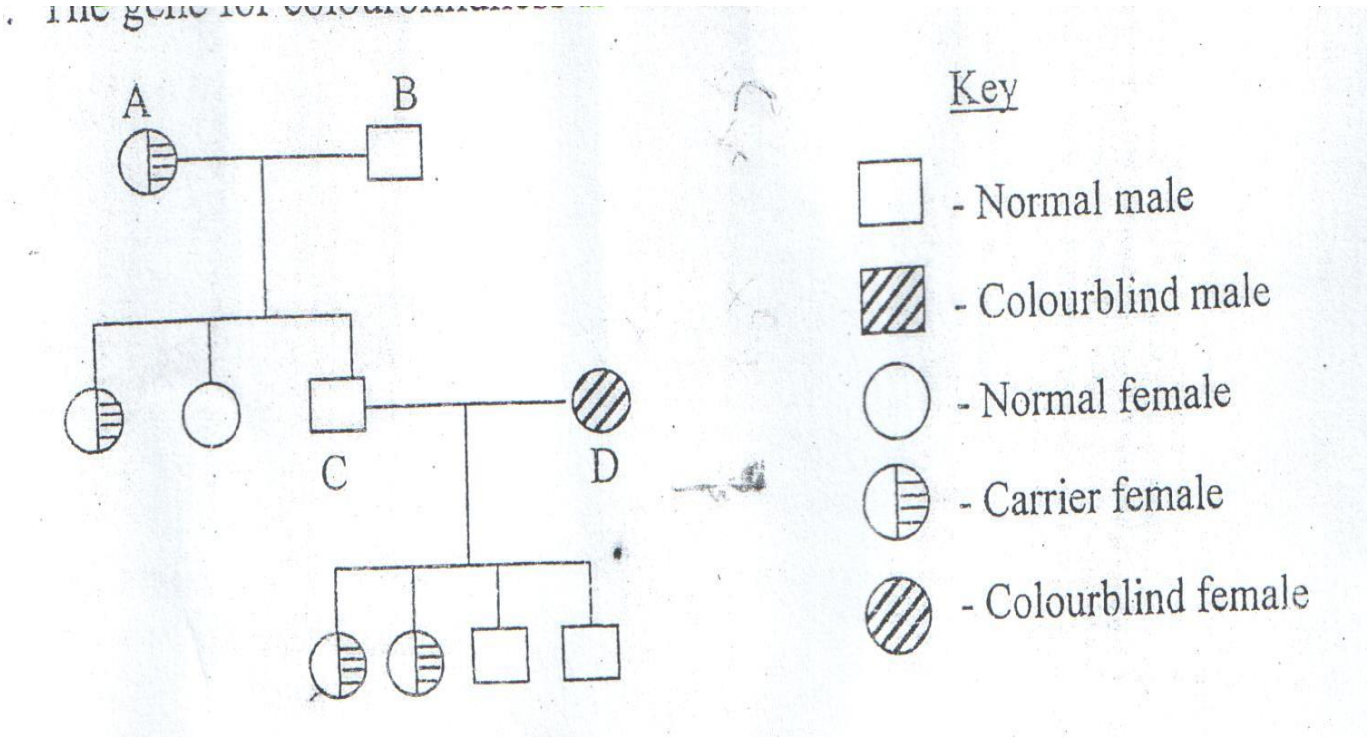
2. The following pedigree shows how the gene for colourblindness was passed in a family for three generations. The gene for colourblindness is sex linked.



a) Define the term sex linkage. **(1mk)**

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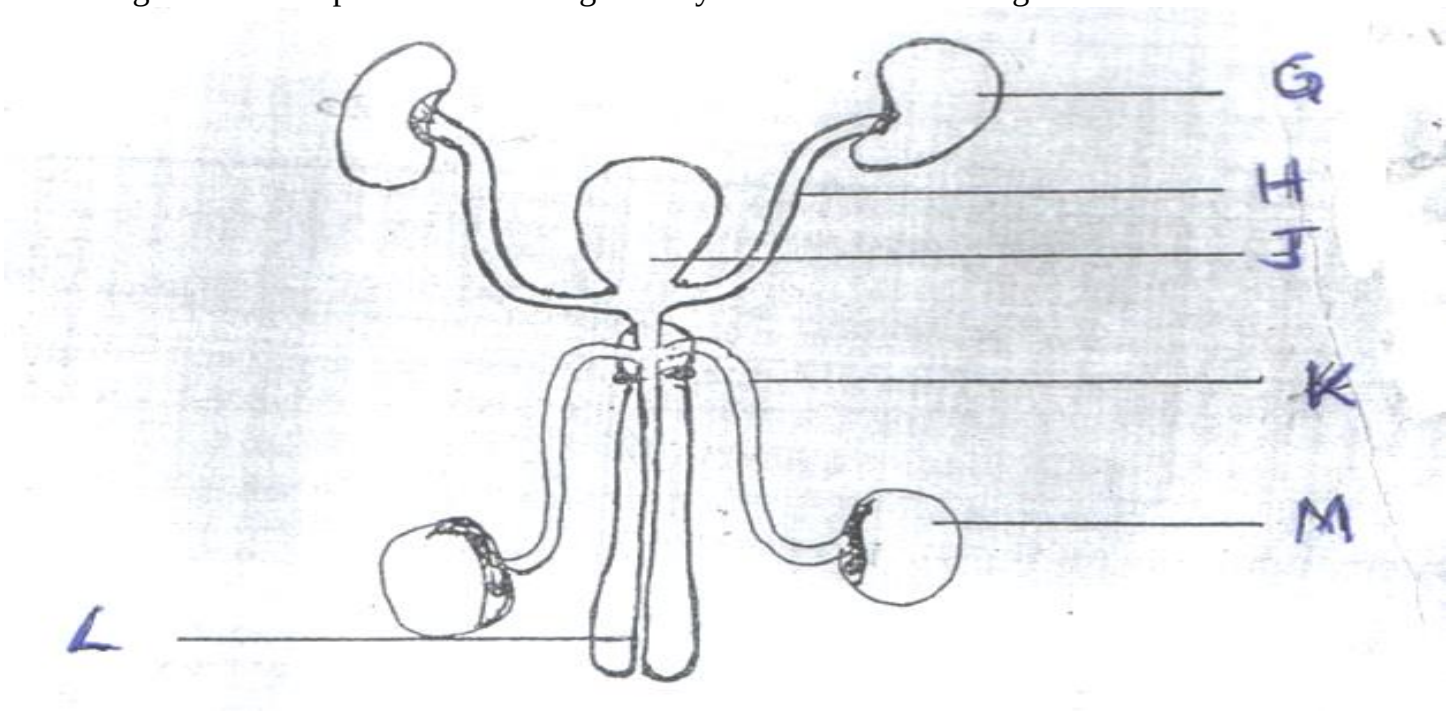
b) Write down the genotype of the parents A and B. **(2mk)**

A .....

B .....

c) Write down the phenotypic ratios of the 2nd generation from parents A and B. Show how you arrived at your answer. **(5mks)**

3. The diagram below represents the urinogenital system of a human being.



a) Name the parts labeled H and K. **(2mks)**

H .....

K .....

b) State the functions of the parts labeled G and L. **(2mks)**

G.....

L .....

c) (i) Give the letter of the structure in which meiosis occurs. .....**(1mk)**

(ii) State how the structure identified in (c) (i) is modified to enhance the survival of products of meiosis. **(1mk)**

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d) (i) Name the hormone secreted by the part labeled M.....**(1mk)**

(ii) What is the function of the hormone named in (d) (i) above. **(1mk)**

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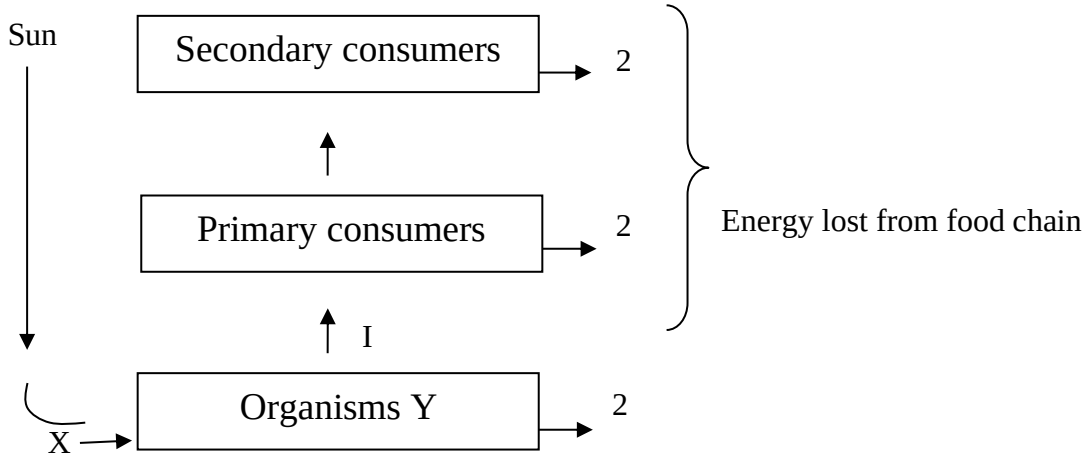
4. The scheme below shows how energy is transmitted from the sun into the ecosystem.



a) Name; **(2mks)**

i) Organisms Y .....

ii) Process I .....

b) Suggest two ways through which energy is lost from one trophic level to the next. **(2mks)**

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c) What is the importance of decomposers in an ecosystem? **(1mk)**

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d) Define the term Eutrophication. **(1mk)**

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e) Which trophic level has the least number of organisms? Explain why. **(2mks)**

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5. An animal had the following teeth; on the upper jaw, no incisors, no canines, six premolars and six molars. On the lower jaw, 6 incisors, no canines, six premolars and six molars.

a) Write down it's dental formula. **(1mk)**

b) (i) Suggest the mode of nutrition of this animal..... **(1mk)**

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

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c) State **two** adaptations of the animal whose dental formula you have written in (a) above. **(2mks)**

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d) Name one dental disease in humans. **(1mk)**

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e) What is the role of teeth in digestion? **(2mks)**

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SECTION B: (40 MARKS)

This section consist of three questions 6, 7 and 8. Answer question 6 (COMPULSORY) and either question 7 or 8 in the spaces provided.

6. The relationship between oxygen concentration, potassium gain and sugar loss in isolated barley root was determined. The results obtained are given in the table below. (The sugar loss and potassium gain are expressed in arbitrary units).

Percentage oxygen concentration	0	5	10	15	20	100
Sugar loss	15	20	42	45	45	48
Potassium gain	5	55	70	73	75	70

a) Plot on the same axes graphs of sugar loss and potassium gain against oxygen concentrations.

(8mks)

GRAPH PROVIDED BY TEACHER

b) (i) Suggest the process by which potassium is taken in by the roots. **(1mk)**

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(ii) Give reasons for your answer. **(2mks)**

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c) Account for the sugar loss and potassium gain at;

i) 0% oxygen concentration. **(2mks)**

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ii) Between 5% and 20% oxygen concentration. **(2mks)**

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d) Apart from oxygen concentration, suggest two other factors that affect the above process. **(2mks)**

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e) State **two** ways in which you can stop the above process from taking place. **(2mks)**

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f)Name **one** part in human body where the process named in b(i) above take place. **(1mk)**

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7. (**a**) What is meant by the term natural selection? **(2mks)**

(b) Describe how natural selection brings about the adaptations of a species to its environment.**(8mk)**

(c) Distinguish between convergent and divergent evolution. **(2mks)**

(d) Discuss four evidences to show that evolution has taken place. **(8mks)**

8. Explain **five** abiotic factors that affect living organisms in an ecosystem. **(20mks)**

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Have A Nice Holiday

FORM 4 ENDTERM 1 EXAMS

SERIES 1

BIOLOGY

PAPER 3

TIME: 2 HOURS

PRACTICAL
(CONFIDENTIAL)
TIME: 1HR 45 MIN
40MKS

1. *F – starch solution*
2. *Solution G1- unboiled diastase enzyme*
3. *G2 – Boiled diastase enzyme*
4. *Thermometer*
5. *250ml beaker labeled warm water bath*
6. *Benedict's solution*
7. *Iodine solution*
8. *Means of timing*
9. *6 test tubes*
10. *Test tube rack*
11. *Means of heating*
12. *Tripod stand*

FORM 4 ENDTERM 1 EXAMS

SERIES 1

BIOLOGY

PAPER 3

TIME: 1¾ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

231/3

BIOLOGY

Paper 3

(Practical)

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

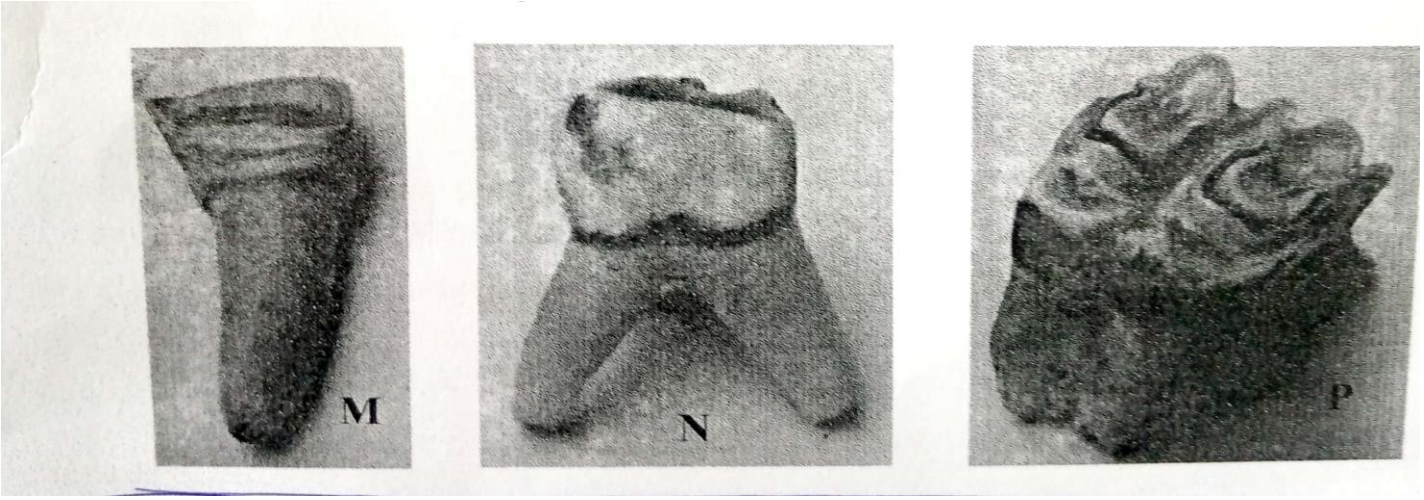
- *Write your name, Admission Number in the spaces provided above*
- *Write the date of examination in the space provided above*
- *Answer ALL the questions*

FOR EXAMINER'S USE ONLY

QUESTION	SCORE	CANDIDATES SCORE
1	9	
2	19	
3	12	
TOTAL	40	

QUESTIONS

1. You are provided with photographs of specimens labeled M,N and P which were obtained from an animal. Study them.



i. Identify specimens: **(3mks)**

M

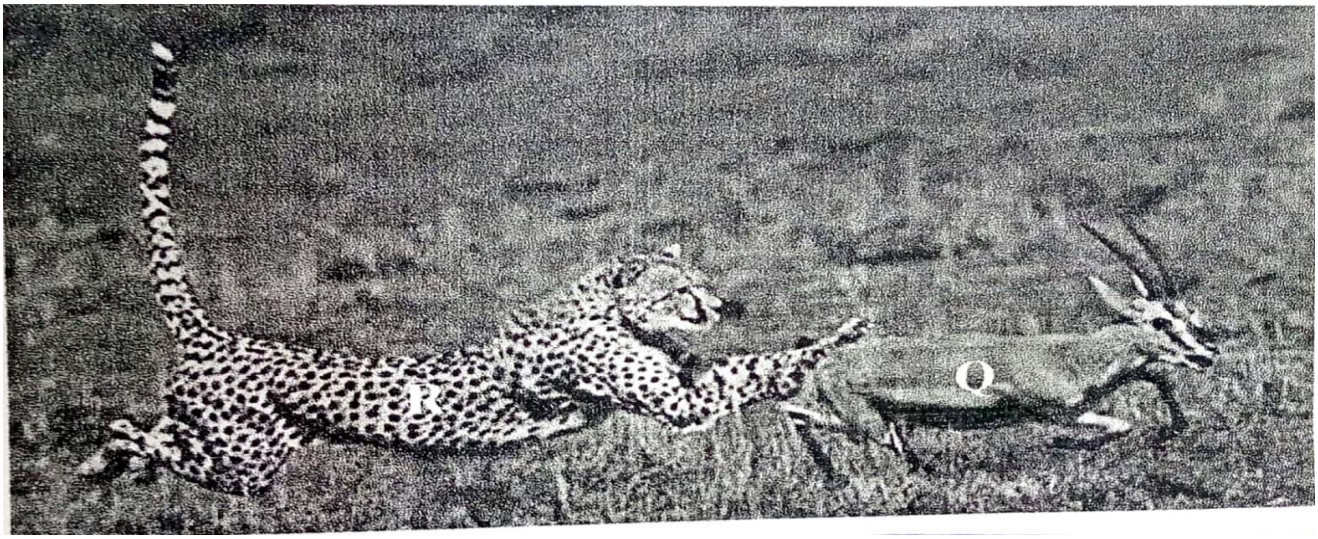
N

P

ii. For each specimen, name, observe features and state how each feature adapts the specimen to it functions. **(6mks)**

Specimen	**Feature**	**Adaptation and function**
M		
N		
P		

2. Below is a photograph depicting interaction of organisms in a certain ecosystem?



a. Write down a possible food chain involving three organisms found in the photograph above.

(1mk)

b. Draw a well labeled pyramid of biomass using the food chain in (a) above. **(3mks)**

What feeding relationships are exhibited by the animals shown in the photographs? **(2mks)**

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c. Give the adaptations of animal R regarding its feeding relationship mentioned in b (ii) above.

(3mks)

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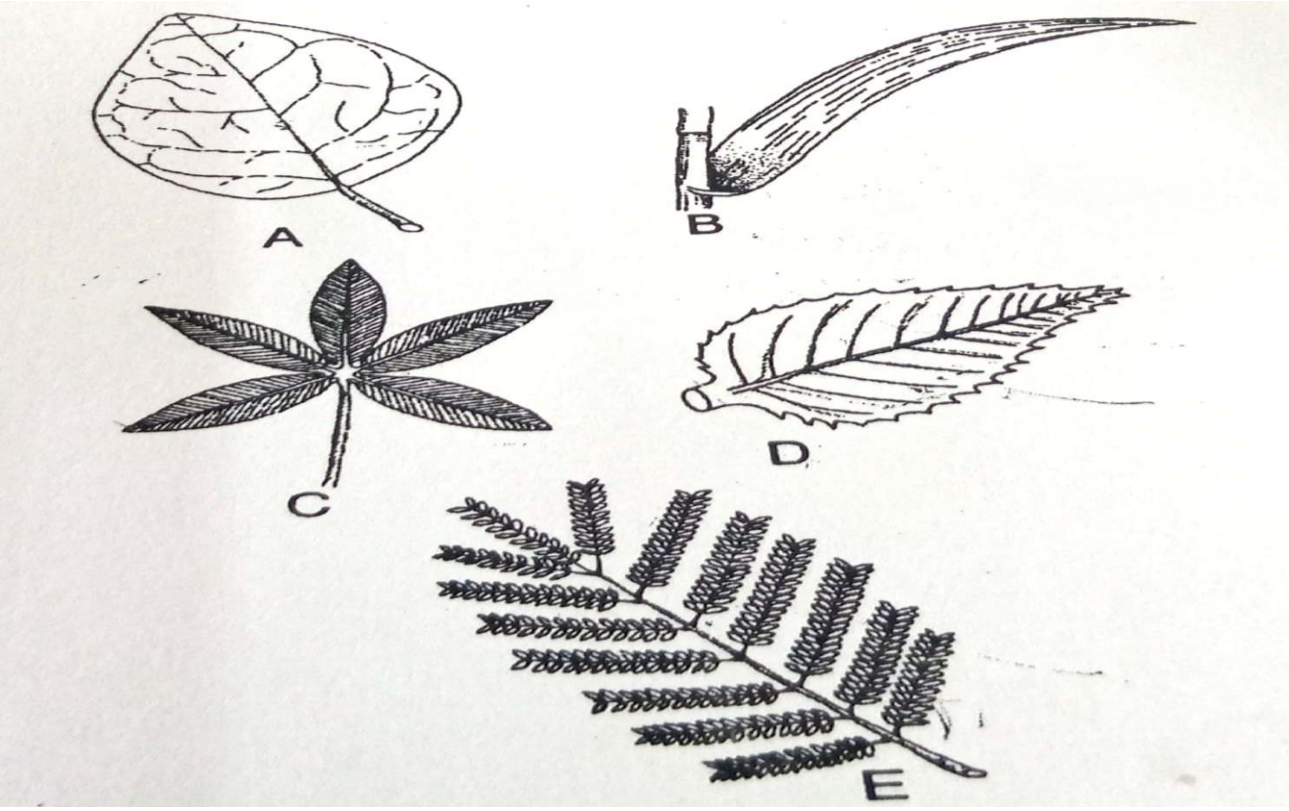
d. A number of leaves are represented by leaves A, B, C, D and. Use the dichotomous key made using leaves A, B, C, D and E below.



1a. Leaf veins network……go to 2
b. Leaf veins parallel…… B (maize)
2a. Leaf simple…… go to 3
b. Leaf compound ……go to 4
3a. Leaf margin smooth……. A (Bougainvillae)
b. Leaf margin serrated…….. D (Hibiscus)
4a. Leaf with five leaflets……. C (Bombax)
b. Leaf with many leaflets…….E (Acacia)

e. Using the above dichotomous key show the steps and identify at the leaves shown above. **(10mks)**

Leaf	Steps	Identity
A	1a, 2a, 3a	Bougainvillae
B	1b	Maize
C	1a, 2b, 4a	Bombax
D	1a,2a,3b	Hibiscus
E	1a,2b,4b	Acacia

3. You are provided with three unknown solutions labeled F, G1 and G2. G1 is the same as G2 except that G2 has been boiled. You are also provided with iodine solution, Benedict's solution, means of heating 250ml beaker labeled for a warm water bath, thermometer, tripod stand, means of timing, test-tubes, test tube holder and test tube rack.

a. Place 2ml of solution F in a test tube and add an equal volume of Benedict's solution.

i. Shake to mix and then heat to boil and write down your observation. **(1mk)**

ii. What conclusion do you make from your observation in a (i) above? **(1mk)**

b. Place 2ml of solution F in a test tube. Add 3 drops of iodine solution and shake to mix and write down your observation. **(1mk)**

iii. What conclusion do you make from your observation in b(i) above? **(1mk)**

c. Place 4ml of solution F in a test tube and add 10 drops of solution G1 and mix. Allow the mixtures to stand in a warm water bath between $35^{O}C$ – $38^{O}C$ for 10 minutes. Divide the resulting mixture into two portions.

i. To one portion in a test tube add 3 drops of iodine solution and shake to mix and write your observation. **(1mk)**

ii. What conclusion can you make from your observation in c (i) above? **(1mk)**

iii. To the second portion in a test tube add 2ml of Benedict's solution, shake to mix and heat to boil and write your observation. **(1mk)**

iv. What conclusion can you make from your observation in c (iii) above? **(1mk)**

d. To about 4ml of solution F in a test tube add 10 drops of G2 and mix, allow the mixture to stand in a warm water bath between $35^{O}C$ – $38^{O}C$ for 10minutes. Divide the resulting mixture into two, carry out iodine test and Benedict's test as described in (c) above and complete the table below. **(4mks)**

Test	**Observations**	**Conclusion**
Iodine test		
Benedict's test		

FORM 4 ENDTERM 1 EXAMS

SERIES 1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

QUESTIONS

1.State four reasons why individuals engage in business activities **(4mks)**

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2.List any five characteristics of services **(5mks)**

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3.State any three circumstances under which human resources help in exploiting natural resources **(3mks)**

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4.Highlight any four means of payment available to traders in your home town **(4mks)**

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5.Mention any three documents used in home trade which do not contain the prices of goods dispatched **(3mks)**

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6.State any five business considerations in evaluating a business opportunity **(5mks)**

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7.Use the table below to show four differences between partnerships and private companies **(4mks)**

Partnerships	Private companies

8.Give four reasons as to why a warehouse may be ineffective **(4mks)**

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9.Despite the development of widespread & modern means of transportation, human porterage is still popular. Enumerate any four factors that may have contributed to its usage in modernized economies **(4mks)**

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10. Identify any five items of information in an insurance policy **(5mks)**

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11. State any three unethical practices employed during the promotion of products **(3mks)**

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12. Highlight four main circumstances that makes it mandatory for business to use written communication **(4mks)**

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13.Identify any four factors that affects both demand and supply of a commodity **(4 mks)**

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14. Outline five ways in which "Land" may influence the location of a firm **(5mks)**

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15. State any four expenses incurred by intermediaries in the distribution of goods **(4mks)**

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16.Using the book keeping equation fill in the missing figures for business A,B,C **and D (4mks)**

Business	Assets	Capital	Liabilities
A	36000		12000
B		37000	23000
C	70000		53000
D	18000	6000	

17. Highlight four items that are considered when measuring the national income using the expenditure approach **(4mks)**

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18. Use a (√) to classify the following accounts as either personal, impersonal or private.(4mks)

Account	Personal	Private	Impersonal
Capital			
Owino (debtor)			
Pent income			
Drawings			

19. Complete the following table by indicating the account to be debited and the one to be credited **(4mks)**

Started a business with Sh 50,000 cash		
Received a cheque from a debtor Kamunya		
Bought office equipment by cheque		
Paid creditor Wambui in cash		

20. Outline five benefits that a community derives from international trade **(5mks)**

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21.A part from taxes, state any other four sources of public finance internally **(4mks)**

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22. The following information relates to Mwangi traders for the nonth of August

Opening stock Sh.40,000
Purchases Sh.46,000
Carriage in Sh.2100
Closing stock Sh. 22,500

Goods are usually sold at a mark-up of 20%. Prepare a trading account **(5mks)**

23.State any four importance's of preparing a balance sheet to the business **(4mks)**

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24.Mogere traders had the following information from his books of account as at 31st December 2009 (4mks)

Capital 1/1/09	sh. 6,800,000
Additional capital	sh. 1,221,560
Drawing for the year	sh. 50,440
Capital 31/12/09	sh. 9,800,000

Determine the profit for the year.

25. Outline the meaning of the term "Crowding out effect"

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Have A Nice Holiday

Stay Safe

FORM 4 ENDTERM 1 EXAMS

SERIES 1

BUSINESS STUDIES

PAPER 2

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

Instructions to the candidates.

Choose any five questions. All questions carry equal marks.

1. (a) Highlight five characteristics of an efficient tax system. **(10mks)**

(b) Differentiate between a public limited company and a public corporation**.** **(10mks)**

2. (a) Explain clearly the malpractices by traders against which consumers may need protection by the government. **(10mks)**

(b) Explain clearly with the aid of a diagram the change in equilibrium as a result of a change in demand of a commodity**.** **(10mks)**

3. (a) Discuss five benefits that a customer may get by using Automated Teller Machine (ATM) for financial transactions. **(8 mks)**

(b) The following trial balance related to Kimani's business as at 31st December 2012

	DR(SHS)	**CR(SHS)**
Stock on 1st January 2003	60,000	
Purchases and sales	400,000	580,000
Returns	20,000	50,000
Debtors and Creditors	65,000	40,000
Premises	540,000	
Machinery	200,000	
Fixtures and fittings	100,000	
Carriage outwards	8,000	
Wages and salaries	30,000	
Discounts	25,000	32,000
Commissions	16,000	14,000
Cash in hand	70,000	
Capital		818,000
	1,534,000	1,534,000

REQUIRED:

(a) Prepare a trading profit and loss account for the period ended 31st December 2012 and a balance sheet as at that date if the closing stock was worth shs 70,000 **(12 mks)**

4. (a)Explain clearly the problems associated with expenditure approach method in measurement of national incomes**.** **(10mks)**

(b) Outline five reasons why ethical practices is necessary in product promotion. **(10mks)**

5. (a) Jane,a petty cashier was given Sh ,2000 on 1st June 2005. During the month, she made the following payments:

2005

June 2 Stationery Sh 100, staff tea Sh 80.

5 Telephone bill Sh 50, postage stamps Sh 100.

8 Travelling Sh 200, telephone Sh 100.

10 Stationery Sh 50, staff tea Sh 100.

15 Postage stamps Sh 50, travelling Sh 100.

20 Sundry expenses Sh 100.

23 Stationery Sh 80, telephone Sh 40.

25 Travelling Sh 50, sundry expenses Sh 100.

28 Envelopes Sh 20, staff tea Sh 50.

30 Adhiambo, a creditor, was paid Sh 100.

Use the following analysis columns to prepare a petty cash book:

Stationery, Staff tea, Travelling. Telephone, Sundry expenses. Ledger accounts. **(12 mks)**

(b) Explain five demerits that a country may suffer when the government becomes a major investor in business. **(8 mks)**

6. (a) Explain the role played by insurance industry in promoting the development of Kenyan economy. **(10mks)**

(b) Explain clearly the tools of monetary policy used by the central bank to control inflation. **(10mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

AGRICULTURE

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

SECTION A (30 MARKS)

Answer ALL Questions in the Spaces Provided

1. State **two** ways by which wind affects the growth of crops. **(1mk)**

……

……

2. Name **three** types of capital used in Agriculture. **(1½mks)**

……

……

……

3. List **four** reasons for primary cultivation. **(2mks)**

……

……

……

……

4. Give **four** properties of soil that are influenced by its texture. **(2mks)**

……

……

……

……

5. State **two** reasons for drying grains before storage. **(1mk)**

.....

.....

6. List **four** methods of treating water for domestic use. **(2mks)**

.....

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.....

.....

7. State **four** ways by which plant nutrient may be lost from the soil. **(2mks)**

.....

.....

.....

.....

8. State **four** functions of nitrogen in crops. **(2mks)**

.....

.....

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.....

9. State **three** ways in which organic mulch helps to conserve water in the soil. **(1½mks)**

.....

.....

.....

10. Give **four** advantages of proper stocking rate in pasture management. **(2mks)**

.....

.....

.....

.....

11. Differentiate between thinning and pricking out as used in crop management **(1mk)**

.....

.....

12. List **three** books of account used in the farm **(1 ½ mks)**

.....

.....

.....

13. State **three** cultural measures taken by farmers to control weeds in the field **(1 ½ mks)**

.....

.....

.....

14. State **three** precautions taken when harvesting pyrethrum **(1 ½ mks)**

.....

.....

.....

15. Mention **four** advantages of minimum tillage **(2mks)**

.....

.....

.....

.....

16. Name **three** crop diseases caused by viruses **(1 ½ mks)**

.....

.....

.....

17. Outline **three** examples of joint products in crop production **(1 ½ mks)**

.....

.....

.....

18. State **three** advantages of land fragmentation **(1 ½ mks)**

……

……

……

19. Give **four** advantages of using zero grazing system of grazing **(2mks)**

……

……

……

……

SECTION B. (20 MARKS)

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

18. Study the diagram below and answer the questions that follow. The illustrations represent a method of crop propagation.

(a) Name the crops (s) propagated by illustrations: **(1mrk)**

A:……..

B:…….

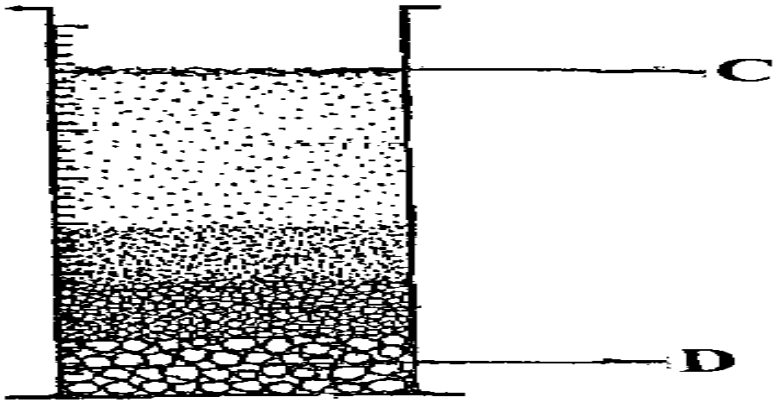
(b) Give **three** factors that promote the rooting of illustration **A.** **(3mrks)**

……

……

……

19. The diagram below illustrates an experiment using garden soil. Study it carefully and answer the question that follow.



(a) What was the aim of the experiment? **(1mrk)**

……

(b) Name the parts labeled **C** and **D.** **(2mrks)**

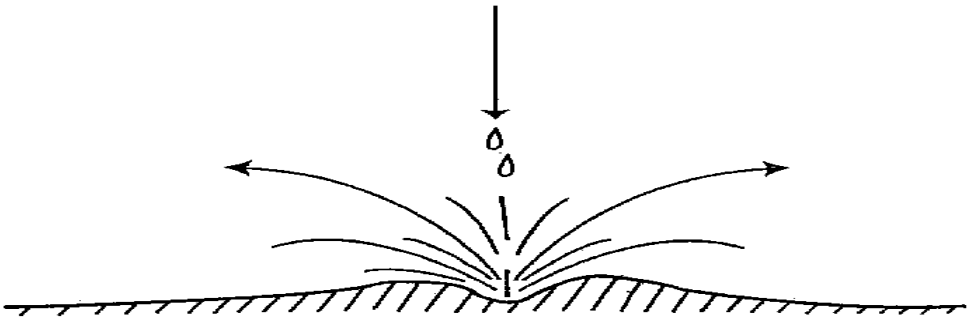
C:……

D:……

(c) Name the property of soil being investigated. **(1mrk)**

……

20. The illustration below shows a type of soil erosion. Study it carefully and answer the questions that follow.



a) Identify the type of erosion illustrated. **(1mrk)**

……

b) Give **two** soil factors that influence the rate of soil erosion. **(2mrks)**

……

……

c) Name **one** agent of soil erosion. **(1mrk)**

……

……

20. The illustration below represents a financial document . Study it carefully and answer the questions that follow.

No: 2061 **Date: 26/07/2022**

M/S MUHORONI FARMERS STORE

DR……ACHEGO FARMERS CO-OP UNION

BOX 2, AWASI

Particular	**Quantity**	**Price per unit**	**Amount**
Layers mash	20 bags	1,200.00	24,000.00
Urea	5bags	3,000.00	15,000.00
Sorghum seeds	10 pkts	300.00	3,000.00
Delivery details	Total		42,000.00

Discount - None

Terms of payment: Cash in 30days upon receipt of goods Official Stamp & signature

a) Identify the document illustrated above. **(1mrk)**

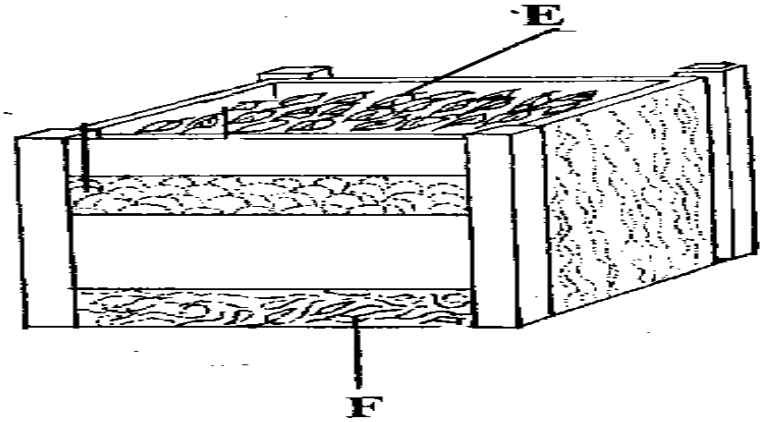
……

b) State **two** functions of the document. **(2mrks)**

……

……

22The diagram below represent a method of manure preparation. Study it carefully and answer the questions that follow.



a) Identify the type of manure being prepared. **(1mrk)**

……

b) Name the parts labeled **E** and **F.** **(1mrk)**

E:……..

F:……..

SECTION C:

Answer any two questions from this section in the spaces provided after question 26.

24. a) Outline **five** activities that may be undertaken in minimum tillage. **(5mks)**

b) State the qualities of a good farmer manager. **(5mks)**

c) Explain **five** ways in which farmers may overcome risks and uncertainties in farming business. **(10mks)**

25. (a) Describe **five** functions of agricultural marketing. **(10mks)**

(b) Explain the **four** types of water erosion. **(4mks)**

(c) Describe the nursery preparation and establishment in rice production. **(6mks)**

26.(a) Describe **five** factors that influence the demand of agricultural products. **(10mks)**

(b) Outline the different methods of pasture conservation and utilization. **(5mks)**

(c) Give reasons for raising vegetable seedlings through a nursery. **(5mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

AGRICULTURE

PAPER 2

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:

- ***Answer ALL the questions***
- ***Answers should be written in the spaces provided***

1. State **two** reasons why lubrication or greasing of farm machines is important **(2mks)**

……

……

2. State **three** practices which should be carried out when preparing a sow for farrowing **(3mks)**

……

……

……

3. State **four** features of a good maize granary **(2mks)**

……

……

……

……

4. Give **two** advantages of artificial calf rearing **(2mks)**

.....

.....

5. Mention **two** advantages of embryo transplant **(2mks)**

.....

.....

6. List **four** materials used for the construction of a gabion **(2mks)**

.....

.....

.....

.....

7. State **two** reasons for washing the udder before milking **(1mk)**

.....

.....

8. Name **two** livestock diseases controlled through use of A.I **(1mk)**

.....

.....

9. Name **two** ways that show good feeding help to control livestock diseases **(2mks)**

.....

.....

10. State **four** categories of farm tools and equipment **(2mks)**

.....

.....

.....

.....

11. Give **two** main functions of the crop in the digestive system of poultry **(1mk)**

……

……

12.Name two species of camels **(1mk)**

……

……

13. Explain the term stocking rate as used in livestock production **(1mk)**

……

……

14. Name **four** tick borne diseases **(2mks)**

……

……

……

……

15. Name **one** sheep breed which is resistant to foot rot disease **(1mk)**

……

16. Name **two** diseases that affect female animals only **(1mk)**

……

……

17. What is dry cow therapy? **(1mk)**

……

……

18. Differentiate between pen mating and flock mating in poultry **(1mk)**

Pen mating

……

Flock mating

……

19. State **one** reason why hoof trimming is carried out in sheep **(1mk)**

……

……

20.State any **two** signs of ill-health in livestock **(1mk)**

……

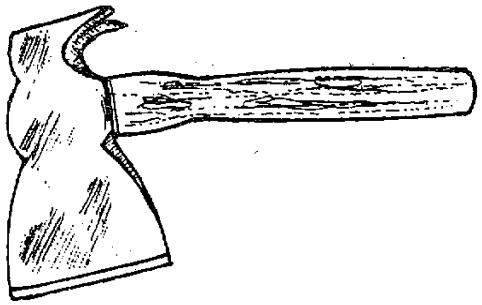
……

……

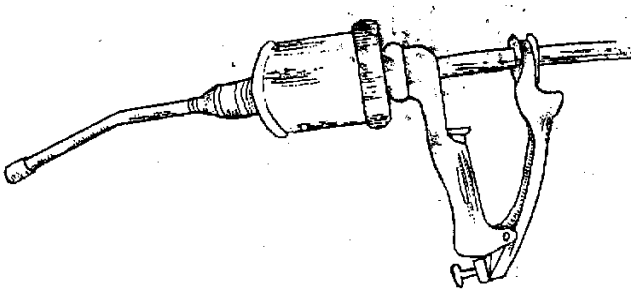
SECTION B (20 MARKS)

<u>Answer all the questions in this section in the spaces provided.</u>

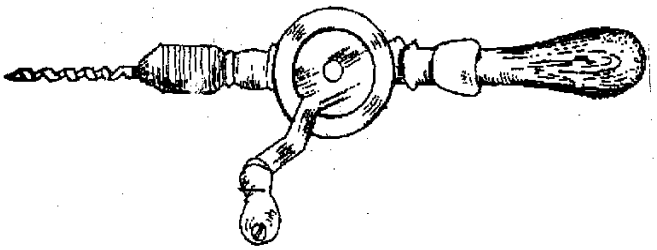
21. Below are illustrations of farm tools and equipment. Study them carefully and answer the questions that follows.



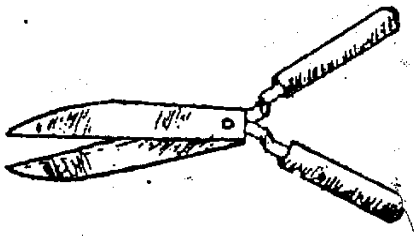
M



N



P



R

(a) Identify the above tools. **(2mrks)**

M:……

N:……...……

P:…….

R: …….

(b) State **one** main use of each tool. **(1mrk)**

M:…….

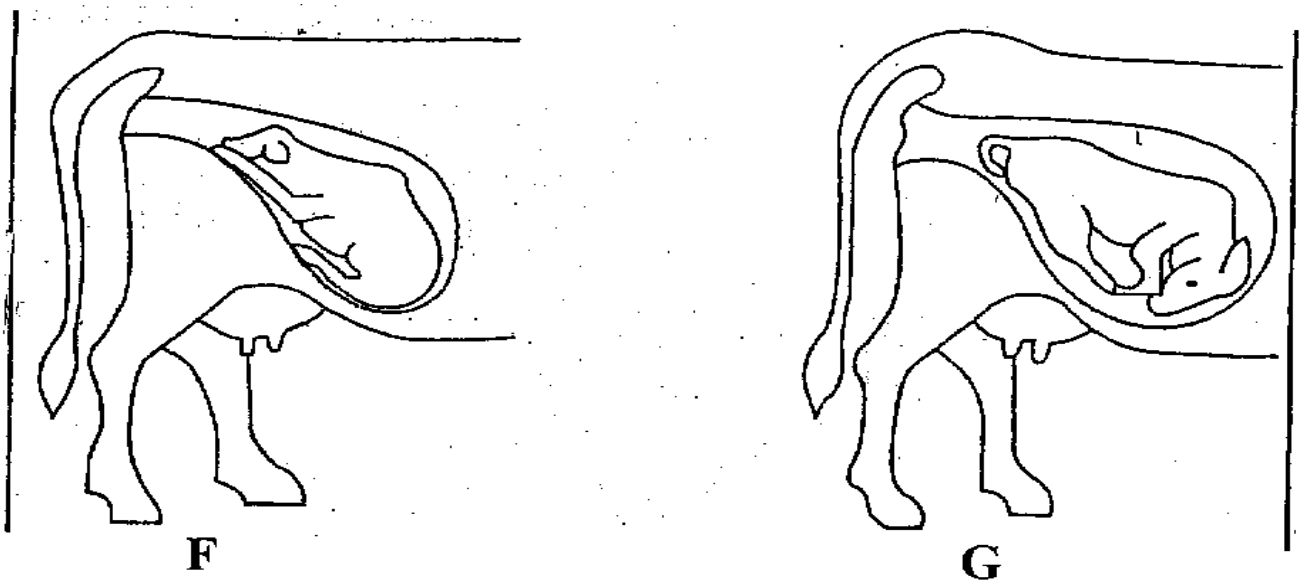
R:……..

(c) Explain **one** maintenance practice carried out on tool **P.** **(1mrk)**

……

……

22. Study the diagram below and use them to answer the questions that follow.



(a) Which of the foetus is in the correct position of parturition? **(1mrk)**

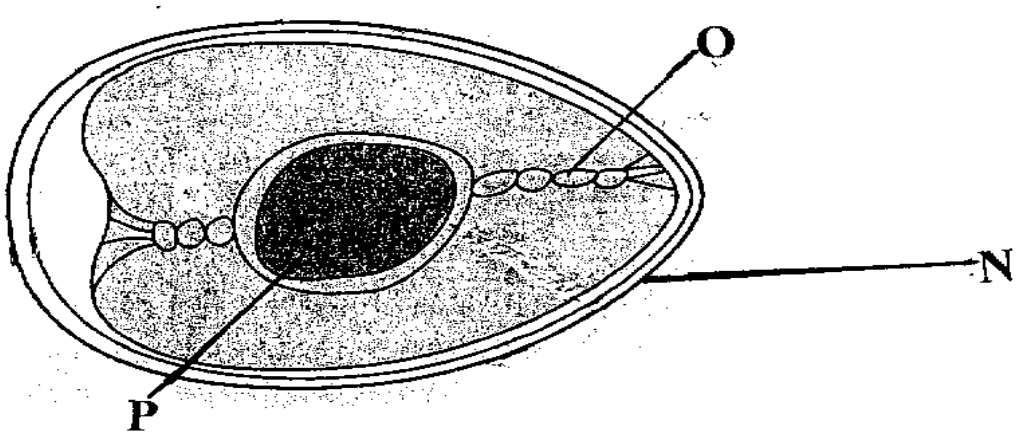
……

b) Name the type of parturition for the foetus **F** and **G**. **(2mrks)**

F:……..

G:…….

23. Study the diagram of an egg below and answer the question that follow.



(a) Name the parts labeled: **(1½ mrks)**

N:…….

O:……..

P:……..

(b) State the functions of the parts O and **N.** **(2mrks)**

O:……..

N:…….....

(c) Give any **three** qualities of eggs used for incubation. **(1½ mrks)**

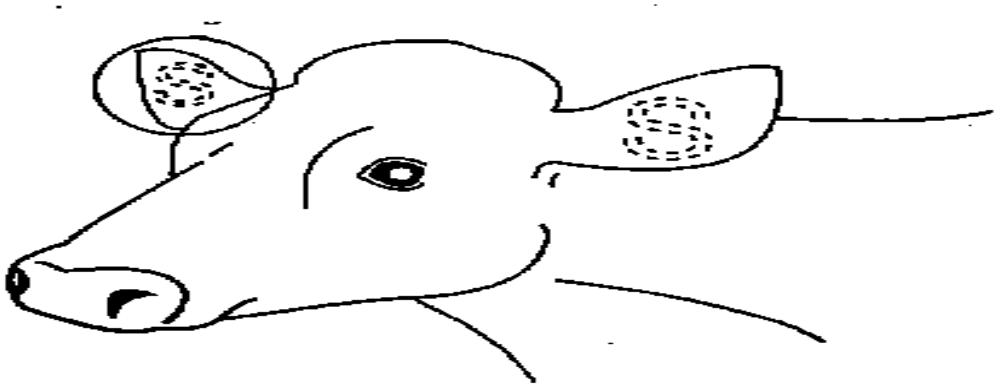
……

……

……

24.A farmer to prepare a **200kg** of chick ration containing **20% DCP**. Using person' square method, calculate the amount of maize containing **10%DPC** and sunflower containing **35% DCP** the farmer would need to prepare the ration.(***Show your workings***) **(5mrks)**

25(a) Name the method of identification shown below. **(1mrk)**



……..

(b)Name the tool used for carrying out the above practice. **(1mrk)**

……

(c) Name **two** other methods for identifying animals. **(1mrk)**

……

……

<u>Answer any TWO questions from this section in the spaces provided</u>

24 (a) State and explain six methods of controlling internal parasites in livestock **(6 marks)**

(b) Describe the management practices that a farmer should carry out to improve milk production in a herd of dairy goats**.** **(10 marks)**

(c) State four disadvantages of natural mating as a method of breeding in dairy cattle production **(4 marks)**

25 (a) Outline the daily maintenance practices that should be carried out on a farm tractor.**(10 mks)**

(b) Describe the body conformation features of beef cattle **(4 marks)**

(c) Outline six causes of stress to a flock of layers. **(6 marks)**

26 (a) Describe mastitis in dairy cattle under the following subheadings

(i) Predisposing factors **(4 mrks)**

(ii) Symptoms **(3 marks)**

(b) State factors considered when siting farm structures **(8 marks)**

(c) Outline the structural requirements of a deep litter house

FORM 4 ENDTERM 1 EXAMS

SERIES 1

CHEMISTRY

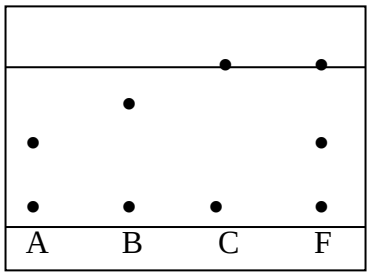
PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

1. Three pure pigments were prepared and their spots placed on a filter paper as shown below. The three pigments are A, B and C. A mixture F was also placed on the filter paper at the same time with the pure pigments. The filter paper was then dipped in ethanol solvent and left for some half an hour. The results were obtained as follows.



(i) Which of the three pure pigments is most sticky? Give a reason for your answer. **(1mk)**

……

……

(ii) Which pure pigment is not present in the mixture **F**? **(1mk)**

……

……

(iii) Show on the diagram the baseline. **(1mk)**

2. Describe how a pure sample of lead (II) carbonate can be prepared in the laboratory starting with lead II oxide. **(3mks)**

3. Write ionic equations for the reactions between : **(4mks)**

(a) Aqueous solution of sodium chloride and lead nitrate

(b) Aqueous solution of barium chloride and magnesium sulphate

(c) Aqueous solution of potassium hydroxide and dilute nitric acid

(d) Zinc and an aqueous solution of copper (II) sulphate

4. If it takes 20 seconds for $200cm^3$ of oxygen gas to diffuse across a porous plug. How long will it take an equal volume of sulphur (IV) oxide to diffuse across the same plug? **(3mks)**

5. Explain reaction of lithium, sodium and potassium with water and write down the chemical equations in each case. **(6mks)**

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.....

6.A mixture contains ammonium chloride, aluminium oxide and sodium chloride. Describe how each solid substance can be obtained from the mixture. **(3mks)**

.....

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.....

.....

7. State the difference between the following salts;

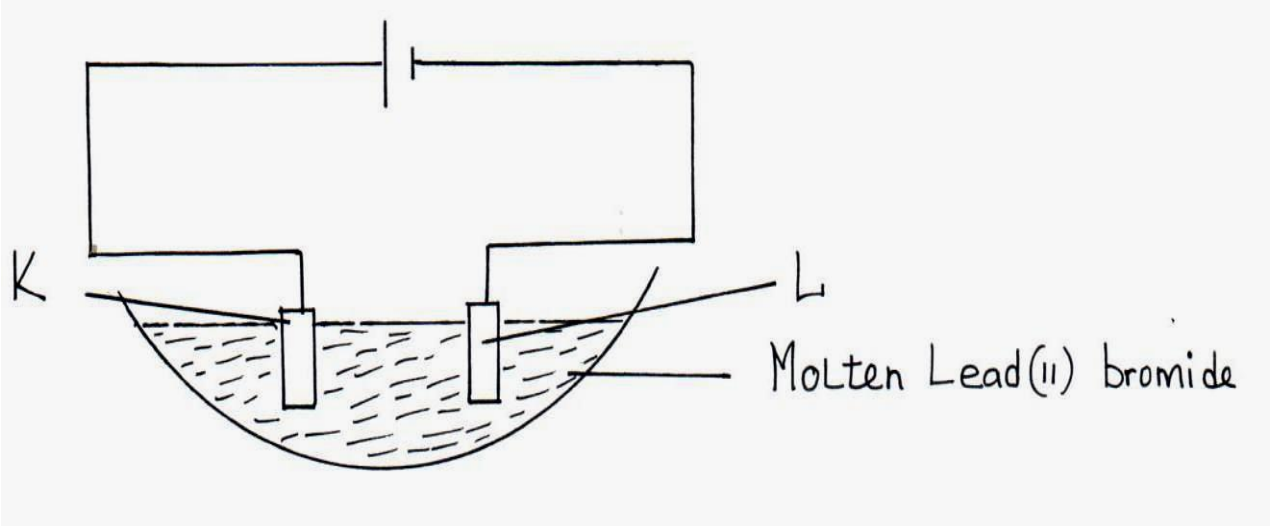
Deliquescent and hygroscopic salts. **(2mks)**

.....

.....

.....

8.. Below is a set-up of apparatus used to investigate the effect of electric current on molten lead (II) bromide.



(a) Name electrode. **(1mk)**

K

L

(b) State the observation made at electrode **K**. **(1mk)**

(c) Write an equation for the reaction taking place at electrode **L**. **(1mk)**

9.A sample of a polyethene polymer has the following structure.

```
   H     H     H     H     H     H
   |     |     |     |     |     |
— C —  C —  C —  C —  C —  C —
   |     |     |     |     |     |
   H     H     H     H     H     H
```

a) Draw the structural formula of the monomer that makes the above polymer

b)The polymer is found to have a molecular mass of 2268g. Determine the number of monomers in the polymer. **(H = 1, C = 12).** **(2mks)**

10.The isotopes hydrogen are $^{1}_{1}H$ and $^{2}_{1}H$. Determine the molecular masses of the molecules formed when each of these isotopes react with chlorine. (Cl = 37, H=1) **(1mk)**

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

Element	**A**	**B**	**C**	**D**
Atomic number	**9**	**10**	**11**	**12**

a) Which **one** of the elements is unreactive? Explain **(1mk)**

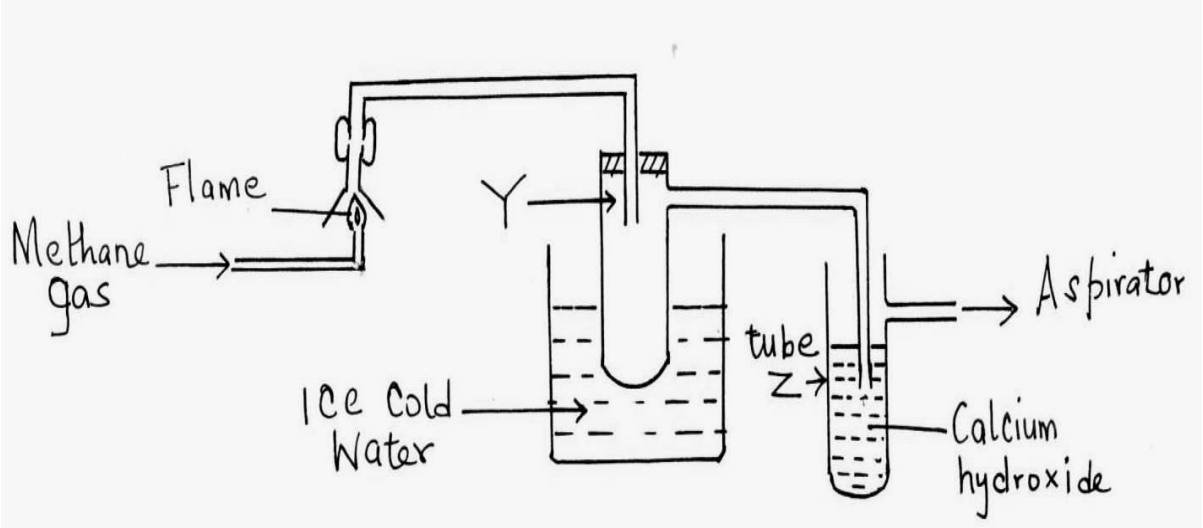
b)i) Which **two** elements would react most vigorously with each other? **(1mk)**

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

12a) Distinguish between a hydrogen bond and covalent bond **(2mks)**

b) Explain why the boiling point of water is higher than that of hydrogen Sulphide
(Relative molecular mass of water is 18 while that hydrogen sulphide is 34) **(2mks)**

13. The set-up below was used to investigate the products of burning methane gas. Study it and answer the questions that follow:



(a) What product will be formed in the test tube **Y**? **(1mk)**

(b) State and explain the observations made in tube **Z**. **(2mks)**

14. Below are P^H values of some solutions.

Solution	Z	Y	X	W
P^H	6.5	13.5	2.2	7.2

(i) Which solution is likely to be

IAcidic rain. **(½mk)**

IIPotassium hydroxide **(½mk)**

(ii) A basic substance **V** reacted with both solutions **Y** and **X**. What is the nature of **V**. **(1mk)**

15. In cold countries, salt is sprayed on the road to melt ice but in the long run it costs the motorists.

(a) How does the salt help in melting ice? **(1mk)**

(b) How does the salt affect the motorists? **(1mk)**

16. Using dots **(.**) and crosses (**x**) to represent electrons, show bonding in the compounds formed when the following elements react: (**Si=14, Na=11, Cl=17**).

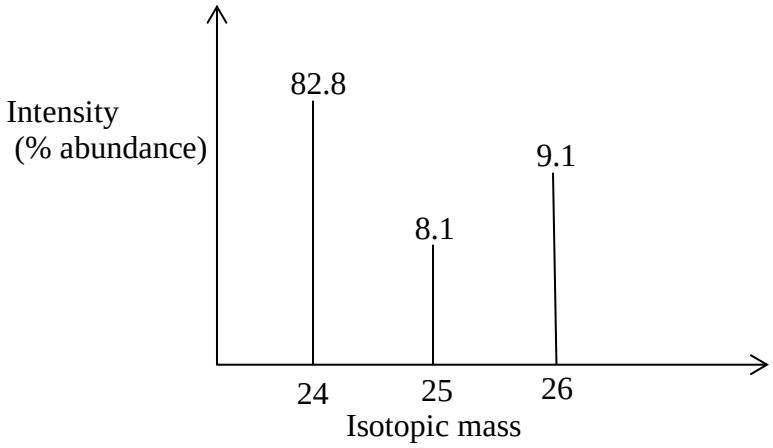
(a) Sodium and chlorine. **(2 Mks)**

(b) Silicon and chlorine. **(2 Mks)**

17. (a) State Graham's law of diffusion. **(1mk)**

(a) $20cm^3$ of an unknown gas Q takes 12.6 seconds to pass through a small orifice, $10cm^3$ of oxygen gas takes 11.2 seconds to diffuse through the same orifice under the same conditions of temperatures and pressure. Calculate the molecular mass of unknown gas Q (O = 16). **(3mks**)

18. The peaks below show the mass spectrum of element X.



Calculate the relative atomic mass of X. **(2mks)**

19. Name the following compounds using the IUPAC rules.

(a) $CH_3CH_2CHCH_2CH_2CH_3$

|

CH_2CH_3 _____ **(1mk)**

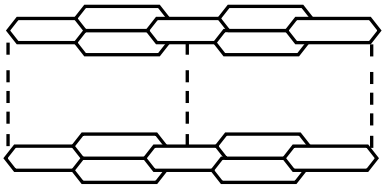
(b) $CH_3CHCHCH_3$ _____ **(1mk)**

(c) Draw TWO structural formulae of isomers of compound with the molecular formula

$CH_3CH_2CH_2CH_3$ **(2mks)**

20.(a) What is meant by allotropy? **(1 mk)**

b) The diagram below shows the structure of one allotropes of carbon.



i) Identify the allotrope **(1 mk)**

ii) State **one** property of the above allotrope and explain how it is related to its structure. **(2mk) .**

21. 24cm³ of a solution of 0.1 M potassium hydroxide were exactly neutralized by 30cm³ of a solution of sulphuric acid. Find the molarity of the acid. **(3 mks)**

22. (a) Give **one** use of hygroscopic substances in the laboratory. **(1 mk)**

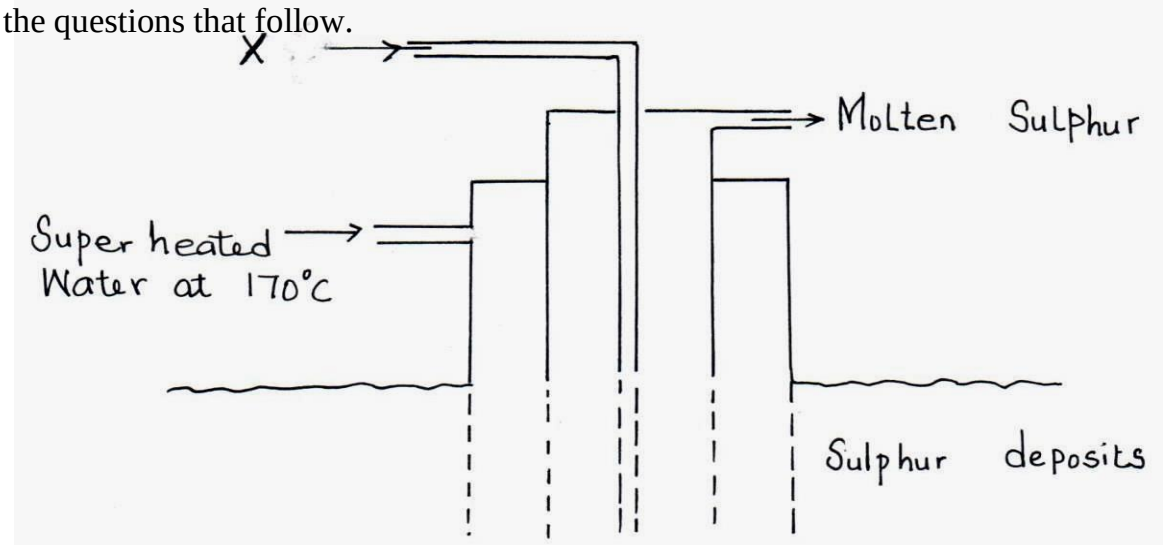
(b) What is meant by the terms: **(2 mks)**

(i) Isotopes

(ii) Mass number

(c) The formulae for a chloride of phosphorus is PCl_3. What is the formula of its sulphide? **(1 mk)**

23. The diagram below shows the Frasch process used for extraction of sulphur. Use it to answer the questions that follow.



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

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

(iii) State **two** physical properties of sulphur that makes it possible for it to be extracted by this method. **(1mk)**

24. A certain carbonate **XCO_3**, reacts with dilute hydrochloric acid according to the equation given below:

$$XCO_{3(s)} + 2HCl_{(aq)} \longrightarrow XCl_{2\,(aq)} + CO_{2\,(g)} + H_2O_{(l)}$$

If 4g of the carbonate reacts completely with $40cm^3$ of 2M hydrochloric acid, calculate the relative atomic mass of X**. (C=12.0 ,O=16.0, Cl=35.5).** **(3 Mks)**

25. The table below gives some properties of three substances **I**, **J** and **K**. Study it and answer the questions that follow.

Substance	Mpt (°C)	Solubility in water	Electrical conductivity	
			Solid	Molten
I	1063	Insoluble	Conduct	Conduct
J	113	Insoluble	Doesn't	Doesn't
K	402	Sparingly soluble	Doesn't Conduct and Is decomposed	

(a) Suggest the type of structure in

(i) I **(1mk)**

(ii) K **(1mk)**

Explain why the molten **K** is decomposed by electric current but **I** is not decomposed**.(2mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

CHEMISTRY

PAPER 2

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

a) *Write your name and admission number in the spaces provided above.*

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

c) *Answer All Questions In The Spaces Provided.*

d) *All working must be clearly shown where necessary.*

e) *Mathematical tables or silent electronic calculators may be used.*

QUESTIONS	MAX SCORE	STUDENT SCORE
1	14	
2	14	
3	14	
4	12	
5	13	
6	13	
TOTAL	80	

Q1(a) The grid below represents part of the periodic table. Letters are not actual symbols of the elements. Use it to answer the questions that follow.

A								B
			C		H			
J	E		D				G	
	F							

(i) Name the family to which E and F belong. **(1mk)**

(ii) Name the least reactive element and give a reason. **(1mk)**

(iii) What type of structure is formed when E and G react. **(1mk)**

(iv) Draw the structure of the molecular compound formed between D and G clearly showing the types of bonds that exist. **(2mks)**

(v) Write the formula of the compound formed between E and H. **(1mk)**

(vi) Name the product formed when sodium is burnt in insufficient oxygen and write the equation for reaction between the product and water. **(2mks)**

(vii) Indicate using a tick on the grid the position of element M which forms an ion with formula M^{2-} and electronic arrangement 2.8.8.8 **(1mk)**

(b) Study the table below and use it to answer the questions that follow. (Letters are not actual symbols)

Element	**Atomic number**
L	13
M	16
N	19
P	9
Q	17

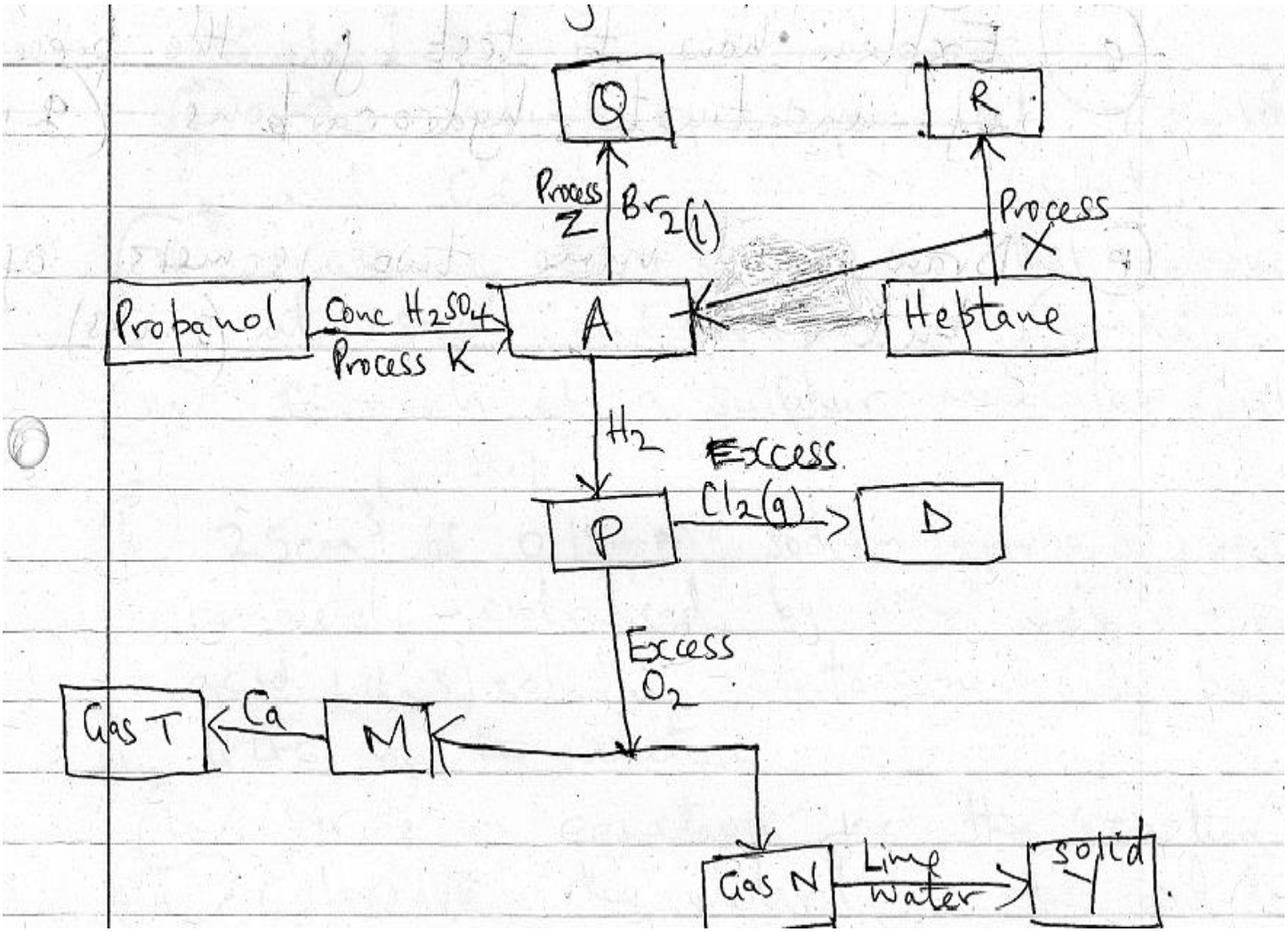
(i) Compare giving reasons the reactivity of P and Q. **(2mks)**

(ii) How does the radius of L and M compare **(1mk)**

(iii) Select the most reactive metal from the group. **(1mk)**

(iv) Write an equation for reaction between N and water. **(1mk)**

Q2 Use the flow chart below to answer the questions that follow.



(a) Name the substances **(4mks)**

(i) **P**

(ii) **R**

(iii) **T**

(iv) **Y**

(b) Write equations using actual formula of substances for formation of; **(3mks)**

(i) Q

(ii) M and N

(III) Gas T

(c) Name the processes

(i) X

(ii) K

(iii) Z

(3mks)

(d) Draw the structures of

(i) A

(ii) D

(2mks)

(e) Draw and name two isomers of butene. **(2mks)**

Q3(a) 2.56g of sulphur formed vapour at 546°C and 760mmHg. The vapour occupied a volume of 672cm^{3}.Calculate

(i) the volume of vapour at 760mmHg and O^{O}C. **(2mks)**

(ii) Mass of 22.4 litres of the vapour at STP conditions. **(2mks)**

(iii) Formula of a sulphur molecule. (S =32) **(2mks)**

(b) 25cm^3 of 0.154M sodium hydroxide, was completely neutralized by 30cm^3 of mineral dibasic acid (H_2X) solution containing 6.3g per litre of the solution.

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

.....

(ii) Calculate the molarity of the acid. **(3mks)**

.....

.....

.....

.....

(iii) Determine the RFM of the acid. **(2mks)**

.....

.....

.....

(iv) Identify x **(2mks)**

(C=12,O=16,S=32,Cl=35.5,H=1,N=14)

.....

.....

.....

.....

Q4 Hydrogen gas is passed through solid Y in a U-tube before being burnt in air.

(i) Explain how to test for presence of hydrogen gas. **(1mk)**

.....

.....

(ii) What is the purpose of substance Y and suggest its identity. **(2mks)**

.....

.....

.....

(b) The products of burning hydrogen were passed through a test tube dipped in ice-cold water. Unburnt gas was then passed over heated CuO.

(i) Write an equation for burning of hydrogen in air. **(1mk)**

.....

(ii) Name a substance that can be used to test for the substance collected in the test-tube dipped in ice-cold water. **(1mk)**

.....

(iii) What is the observation made on the copper(II) oxide after a short while. **(1mk)**

.....

.....

(iv) Write an equation for the reaction that takes place on the copper(II) oxide solid. **(1mk)**

.....

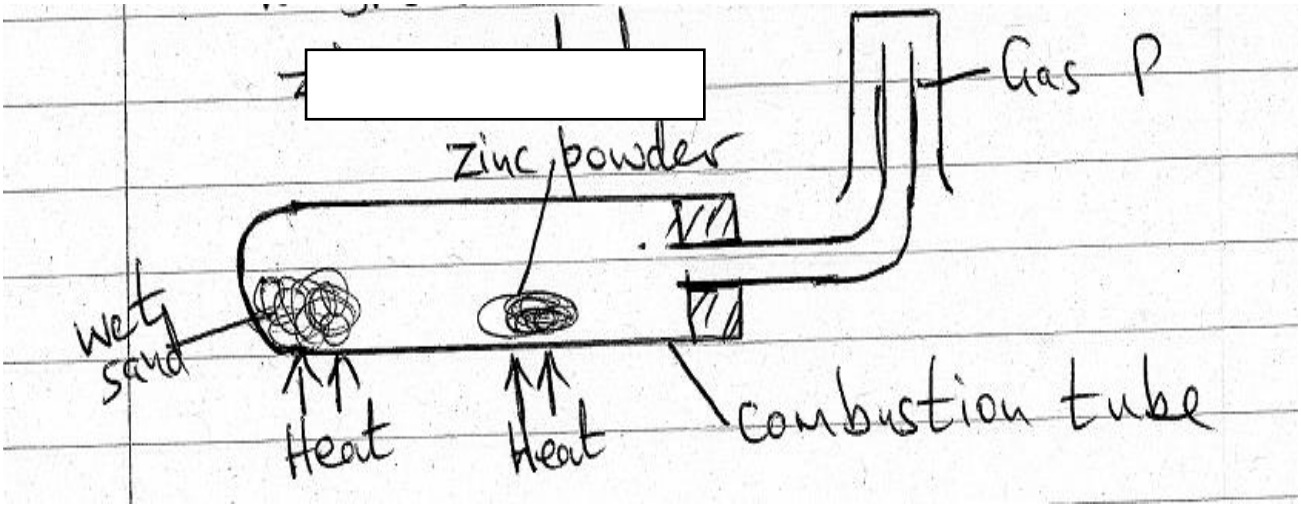
.....

(v) Other than for manufacture of ammonia and hydrochloric acid, , state another use of hydrogen. **(1mks)**

.....

.....

(c) The diagram below is a set-up used to show how water reacts with zinc metal.



(i) Why is wet sand used and not water. **(1mk)**

(ii) Write an equation for the reaction in the combustion tube. **(1mk)**

(iii) What observation is made in the combustion tube as heating went on. **(1mk)**

(iv) Explain why potassium cannot be used in place of zinc. **(1mk)**

Q5(a) Carbon(II) Oxide gas can be prepared by dehydrating methanoic acid using concentrated sulphuric(VI) acid.

(i) Give two physical properties of carbon(II) oxide gas. **(2mks)**

(ii) Explain how carbon(II) oxide gas causes poisoning if inhaled. **(1mk)**

(iii) Describe a simple chemical test that can be used to distinguish between carbon(II) oxide and carbon(IV) oxide. **(2mks)**

(b) Soot is a form of impure carbon

(i) Name another form of carbon that is amorphous. **(1mk)**

(ii) State the difference in conductivity between the two crystalline allotropes of carbon. **(2mks)**

.....

.....

.....

(iii) Give one use for each of the two crystalline allotropes. **(2mks)**

.....

.....

(c)(i) Write an equation for decomposition of ammonium carbonate on heating. **(1mk)**

.....

.....

(ii) Explain the observations made when each of the carbonates below is reacted with dilute sulphure(VI) acid:

Lead carbonate

.....

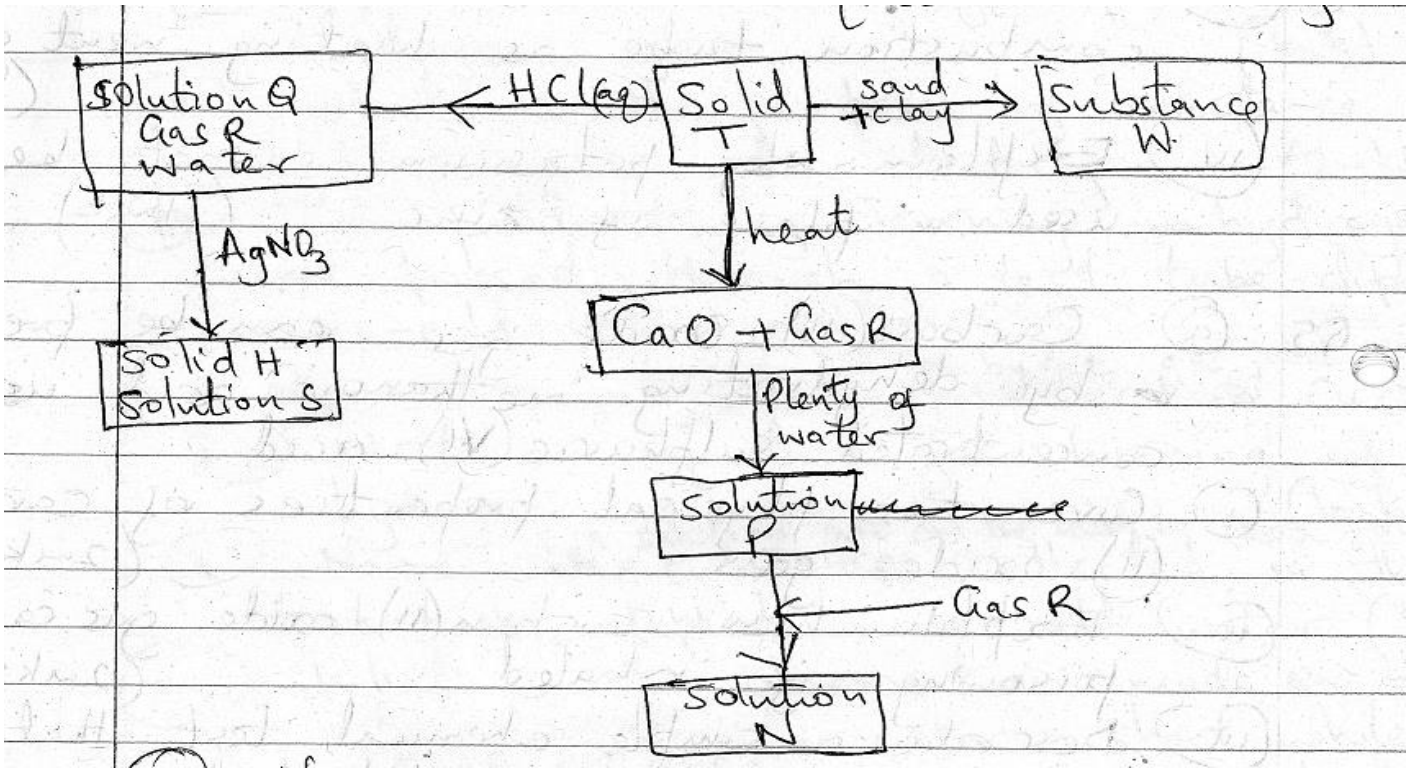
.....

Copper(II) carbonate **(2mks)**

.....

.....

Q6. The flow chart below shows some reactions undergone by some salts. Use it to answer the questions that follows.



(a) Name **(3mks**

(i) Gas R

(ii) Solution N

(iii) Solid H

(b) Write equations for the following reactions. **(3mks)**

(i) Addition of $AgNO_3$ to solution Q

(ii) Heating solid T

(iii) Formation of solution P

(c) Give one use for the substances below **(3mks)**

(i) Gas R

(ii) Substance W

(iii) Silver bromide

(d)(i) Name the method used to prepare salts H and S **(1mk)**

(ii) Name another salt that can be prepared using the method in d(i) above. **(1mk)**

(e) Ammonium ferrous sulphate hexahydrate an example of a double salt. Write its formula. **(1mk)**

(f) Give one example of a salt contained in fertilizers. **(1mk)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

CHEMISTRY

PAPER 3

CONFIDENTIAL

REQUIREMENT FOR CANDIDATES

In addition to the fittings and apparatus found in a Chemistry laboratory, each candidate will require the following:-

- $30cm^3$ of solution P
- $100cm^3$ of solution Q
- $200cm^3$ of solution R
- A burette
- A $25cm^3$ pipette
- A Pipette filler
- 2 conical flasks
- A stand and a clamp
- 10 cm^3 of measuring cylinder
- $100cm^3$ of measuring cylinder.
- One 250 cm^3 beaker (plastic or glass)
- A label.
- Filter funnel.
- $500cm^3$ of distilled water in a wash bottle
- 2 filter papers
- A spatula
- About 1g of solid A.
- A boiling tube.
- 6 test-tubes in a rack.
- Phenolphthalein indicator supplied with a dropper.

ACCESS TO:

_ 2M Ammonia solution
_ 2M Hydrochloric acid.
_ 0.5 M Lead (II) nitrate solution
_ 0.5M Barium Chloride.
_ 1M Nitric acid.
_ 0.5M Potassium Iodide solution

Each supplied with a dropper

NOTES

1. Solid A is a mixture of Zinc sulphate and Lead (II) Carbonate in the ratio 1:2.
2. Solution R is prepared by dissolving 4g of Sodium hydroxide in $600cm^3$ of distilled water and diluting it upto one litre of solution.
3. Solution Q is prepared by dissolving 6.3g of oxalic acid ($H_2C_2O_4.2H_2O$) in $500cm^3$ of distilled water and diluting it upto one litre of solution .
4. Solution P is prepared by dissolving 86 cm^3 of concentrated hydrochloric acid(specific gravity 1.18) to $500cm^3$ of distilled water and diluting it upto one litre of solution.

FORM 4 ENDTERM 1 EXAMS

SERIES 1

CHEMISTRY

PAPER 1

TIME: 2¼ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

CHEMISTRY

PAPER 3

PRACTICAL

TIME: 2¼ HOURS.

INSTRUCTIONS TO CANDIDATES.

- *Write your name and index number in the spaces provided above.*
- *Sign and write the date of exam in the spaces above.*
- *Answer **ALL** the 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 time for the paper.*
- *Use the 15 minutes to read through the question paper and make sure that you have all the chemicals and apparatus that you may require.*
- *Mathematical tables and electronic calculators may be used.*
- *All working **MUST** be clearly shown where necessary.*

FOR EXAMINER'S USE ONLY.

Question	Maximum score	Candidate's score
1	24	
2	16	
Total score	40	

1. **(24 Marks)**

- You are provided with:-
- Aqueous hydrochloric acid solution P in a beaker.
- A solution Q containing 6.3 g of dibasic acid $H_2C_2O_4.2H_2O$ per litre.
- Aqueous sodium hydroxide solution R.
- You are required to:

i) Standardize the sodium hydroxide solution R.

ii) Use the standardized solution R to determine the concentration of solution P in moles per litre.

PROCEDURE I

Fill the burette with solution Q. Pipette 25.0 cm^3 of solution R into a conical flask and 3 drops of phenolphthalein indicator. Titrate this solution with solution Q until the pink colour just disappears .Record your results in table I below .Repeat this procedure two more times and complete table 1.

TABLE 1

	1	2	3
Final burette reading(cm^3)			
Initial burette reading(cm^3)			
Volume of solution Q used(cm^3)			

(4 marks)

(i) Calculate the average volume of solution Q used. **(1 mark)**

(ii) Calculate the concentration of the dibasic acid solution Q in moles per litre. **(2 marks)**
(C=12,O=16,H=1)

(iii) Calculate the number of moles of the dibasic acid solution Q used. **(1 mark)**

(iv) Calculate the number of moles of sodium hydroxide in 25cm^3 of solution R.**(2 marks)**

(v) Calculate the concentration of sodium hydroxide solution R in moles per litre .**(2 marks)**

PROCEDURE II

Using a 100cm^{3}measuring cylinder, measure 90cm^{3}of distilled water and transfer it into a 250cm^3 beaker. Dry the measuring cylinder and use it to measure 10cm^3 of solution P and add it to the 90 cm^3 of distilled in the beaker. Mix the solution well and label it solution T.

Fill the burette with solution T and pipette 25cm^3 of solution R into a clean conical flask. Add 3 drops of phenolphthalein indicator. Titrate this solution with solution T until the pink colour just disappears .Record your results in table II below .Repeat this procedure two more times to complete table II.

Table II

	1	2	3
Final burette reading(cm^3)			
Initial burette readings(cm^3)			
Volume of solution T used (cm^3)			

(i) Calculate the average volume of solution T used. **(1 mark)**

(ii) Calculate the number of moles of solution R used. **(1 mark)**

(iii)Calculate the number of moles of hydrochloric acid in solution T that reacted completely with 25cm^3 of Sodium hydroxide solution R. **(2 marks)**

(iv) Calculate the number of moles of hydrochloric acid in $100cm^3$ of solution T . **(2 marks)**

(v) Determine the concentration of the original hydrochloric acid solution P in moles per litre.

(2 marks)

2. (16 MARKS)

You are provided with solid A, which is a mixture of two compounds .Carry out the experiment s below .Record your observations and inferences in the table and identify any gas (es) evolved.

(a) Transfer a spatula end-full of solid A in a boiling tube and add $20cm^3$ of distilled water. Shake thoroughly and filter .Rinse the residue with distilled water and keep both the filtrate and the residue.

Observations	**Inferences**

1 mark **1mark**

(b) Divide the filtrate into three portions, each of $2cm^3$.

(i) To portion one, add ammonia solution dropwise until in excess.

Observations	**Inferences**

(1 mark) **(1 mark)**

(ii) To portion two, add 4 drops of 0.5M Lead (II) nitrate solution.

Observations	**Inferences**

(1 mark) **(1 mark)**

(iii) To portion three, add 4 drops of Barium chloride solutions, followed by 5 cm^3 of nitric (v) acid.

Observations	**Inferences**

1 mark **1mark**

(c) Scrap the residue from the filter paper (a) above using a spatula and transfer it into a boiling tube. Add to it 1M Nitric acid until it dissolves .Keep the resulting solution for use in part(d) below.

Observations	**Inferences**

(1 mark) **(1 mark)**

(d) Divide the solution into 3 parts.

(i) To part two, add ammonia solution dropwise.

Observations	**Inferences**

1mark **(1mark)**

(ii) To part two, add 4 drops of 1M hydrochloric acid solution.

Observations	**Inferences**

1mark **1mark**

(iii) To part three, add 4 drops of potassium Iodide solution.

Observations	**Inferences**

1mark **1mark**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 1

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

***Select any five questions*.**

1. a) Identify the national goals that are achieved through the study of **CRE.** **(5mks)**

b) Outline the literary forms used in writing Biblical books. **(7mks)**

c) Explain how Christians are continuing with God's work of creation. **(8mks)**

2. a) Outline seven ways in which God demonstrated His mercy to the Israelites at Mt. Sinai. **(7mks)**

b) Describe the covenant making process between God and Abraham as indicated in Genesis 15: 1-19 **(8mks)**

c) What are the features of marriage that qualifies it to a covenant? **(5mks**

3. a) Give seven duties performed by Samuel after his call until his death. **(7mks)**

b) Give six factors which contribute to schism between Judah and Israel**.** **(6mks)**

c) List the qualities of Prophet Elijah that a Christian leader should posses in Kenya today. **(7mks)**

4. a) Give seven similarities between the traditional Africa prophets and the Old Testament Prophets. **(7mks)**

b) Explain the hypocritical religious practices of the Israelites during the time of Prophet Amos. **(8mks)**

c) Identify five attributes of God that Christians can learn from Prophet Amos**.** **(5mks)**

5. a) Explain Jeremiah's prophecy about the new covenant Jeremiah 23:5-6; 30-33 **(7mks)**

b) Give six similarities in the life and experience of Nehemiah and Jesus Christ. **(6mks)**

c) What lessons does Christian learn from Prophet Jeremiah's teaching on the new covenant? **(7mks)**

6. a) Explain the importance of marriage in African traditional society. **(8mks)**

b) Give five changes that have taken place in property ownership in traditional African community. **(5mks)**

c) What are the causes of divorce in the society today**?** **(7mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

Select any five questions.

1. Give eight ways in which Jesus fulfilled the prophecies of suffering servant of Yahweh. **(8mks)**

b) Outline the content of Mars's song, the magnificent**.** **(5mks)**

c) State seven reasons why Christian must be baptized**.** **(7mks)**

2. a) Describe the healing of the woman with flow of blood. (**Lk. 8: 43-48)** **(8mks)**

b) How did people react towards Jesus use of miracles**?** **(7mks)**

c) State five ways the church continues with the healing ministry of Jesus. **(5mks)**

3. a) Outline seven events that took place during triumphant entry to Jerusalem. Lk. 19: 28- 44. (7mks)

b) Narrate eight teaching of Jesus on Eschatology. Lk. 21:5-36**.** **(8mks)**

c) How are Christian preparing for Jesus parousia? **(5mks)**

4. a) Outline the teaching of Peter concerning the people of God. 1st Peter 2: 9-10**.** **(10mks)**

b) Show ways through which Christian can promote unity. **(6mks)**

c) State ways in which kindness as a fruit of Holy Spirit is abused in Kenya today**.** **(4mks)**

5. a) Identify similarities between the Christian and Tradition Africa on marriage. **(8mks)**

b) Give reasons why young people are choosing to remain unmarried in Kenya today**.** **(6mks)**

c) Show ways in which the church is helping to solve domestic violence in Kenya today. **(6mks)**

6. a) What is the Christian view on plastic surgery? **(10mks)**

b) Ways through which science and Technology has negatively affected the environment created by God**.** **(4mks)**

c) Shows ways in which the youth in the church can carry out environmental restoration in Kenya today. **(6mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

ENGLISH

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

FUNCTIONAL WRITING

1. Write a letter to a presenter of your local radio requesting her to come and speak to the journalism club in your school **(20 marks)**

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CLOZE TEST

2. Fill in the blank spaces in the passage with the most appropriate word. (10marks)

Reading a diary extensively can help you to……..……(1)out about life in other parts of the world. In this…….(2),you are likely to find solutions to your…….(3), especially when you……(4) about people whose problems are……(5) to yours. Reading could also…….(6) you new insights into life. You should also learn to read……(7) pleasure and enjoyment. As you ……(8)for your examinations, there will be time you feel like relaxing. At such a…….(9) you could read your favorite novel……..….(10) your favourite magazine.

ORAL SKILLS

THE BRIDE

Why do you wear that dress so white?
Why do you wear that veil so light?
Why do your young eyes shine so bright?
Is it your wedding?

I wear the dress and veil to show
That gladly to my love I go
My young eyes shine because I know
It is my wedding.

QUESTIONS

1. Describe the rhyme scheme of the poem. **(2mks)**

……

……

2. Which intonation would use on the following lines? **(2mks)**

a) Why do wear that dress so white?

……

……

b) Is it your wedding?

……

……

3. How has the poet achieved rhythm? **(2mks)**

……

……

……

4. How would you perform the last line of the poem and why? **(2mks)**

……

……

……

5. Underline the syllable that should be stressed in each of the following words. ***(5mks)***

a) lncrease (v)

b) Colleague

c) Discuss

d) Present (N)

e) Deadly

6. In the sentences below, identify the words that begin with the same consonant sound. (6mks)

i) The chief chef has shaped cakes beautifully.

……

ii) They chose to do the household chores with great care.

……

iii) The honourable minister has no sense of humour.

……

iv) It took an hour for his heir to sport the girl with curly hair.

……

v) The polite pharmacist said he was psychologically disturbed by the fan in his study room.

……

vi) The jet transporting gem stones and garments has arrived.

……

7. Your school has invited a guest speaker to give a talk on discipline. At the end of the speech, the students comment that the talk was well delivered. Suggest reasons why they commented so.

(5mks)

.....

.....

.....

.....

.....

.....

8. Complete the following conversation appropriately. ***(6 mks)***

Teacher: Why didn't you hand in your book for marking?

Mary:

.....

.....

Teacher: That will impact negatively on your performance?

Mary:

.....

.....

Teacher: You may be from a rich family but remember that it is not your wealth. You have to work hard for yours.

Mary:

.....

.....

Teacher: You better keep your promise because without hard work, you will not achieve your goals in life. Hand in your work before the end of the day.

Mary:.....

.....

FORM 4 ENDTERM 1 EXAMS

SERIES 1

ENGLISH

PAPER 2

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

COMPREHENSION

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

Happiness arises largely from the mental qualities of contentment, confidence, serenity and active good-will. It includes the pain of losing as well as the pleasure of finding. It thrives best in a crowded life. The men and women who are recorded in history and biography as the most happy were with always somewhat to do than they could possibly do. Every waking hour of their lives was occupied with ambitious projects, literature, love, politics, science, friendship, commerce, professions, trades, their religious faith, and a thousand other matters. The secret of happiness may be found by making each of these interests count to its utmost as part of the fabric of life.

We need to avoid the extremes of sluggish placidity and feverish activity. we are not going to be satisfied with felicity which resembles that of a stone, unfeeling and unmoving, but will look back from future ears with sorrow and regret if we run to and fro, giving it what Socrates called 'the itch'.

Happiness obviously includes two sorts of behavior: active and passive. We may say the active consists in searching and sharing, while the passive part is made up security and possession. Neither part is complete in itself, nor does neither yield full satisfaction if it is over-emphasized. Philosophers from the ancient Greeks to present day have been extolling a balanced life as the most happy life,and many unhappy people can, when they face the issue, trace their discontent to imbalance.

The recipe for happiness cannot be given in any single word, because its many virtues have to be combined in their proper quantities, at the proper times for proper purposes.

It is legitimate to seek happiness. We cannot help observing that while followers of some schools of thought are telling us to avoid seeking happiness; they intimate that if we do so we shall be happy.

The search requires a plan. We need to know what sort of happiness we seek, what the ingredients are, what our strongest wants are, and what we have to start with. We should train ourselves to keep the programme simple, and free from complications and side trips, to pay attention to little things to deflate quickly after being praised and to bounce back quickly after disappointment, to seize to create

opportunities to put our special abilities to work, to seek excellence in everything we do, to remain modest and to review and revise periodically.

Most of us do not really have to seek far and wide. Happiness grows at our fireside, if we cultivate it.

a) According to the writer, what is the source of happiness**?** **(2mks)**

……

……

b) What two sorts of behavior does happiness include**?** **(2mks)**

……

……

c) What does the writer mean when he talks about a balanced life**?** **(2 mks)**

……

……

d) In a paragraph of about 30 words, summarize the things we must know as we search for happiness? **(4mks)**

……

……

……

……

e) Explain the writers point in the last paragraph of the passage**.** **(2mks)**

……

……

f)The recipe for happiness cannot be given in any single word**.** **(1mk)**

(Rewrite the sentence beginning: No single word…)

……

g) Identify and comment on the figures of speech used in the following: **(2marks)**

(i) *It (Happiness) thrives best in a crowded life*.

(ii) *… as part of the fabric life.*

h)Describe the tone of this passage**.** **(1mark)**

i)Explain the meaning of the following words as used in the passage. **(4mrks)**

(i) Extolling-

(ii) Intimate-

(iii) Felicity-

(iv) Legitimate-

QUESTION 2

Read the following excerpt and answer the questions that follow.

Read the excerpt below and then answer the questions that follow. **(25 marks)**

"Why do you want to steal my wife?"

"The word I used is 'marry'. You prefer 'steal'?"

"What good is she to you?" Kimani cursed himself for that wording: he had degraded notonly his wife but also himself, and in the same breath, upgraded his foe.

"What good is she to me? Because she is much older than I am? — is that what you mean?Then hear my answer. Old is gold."

Mr Walomu's opponents had a different answer: ' 'When a cat gets into a pigeon coop," theysaid, "it kills all the pigeons it finds there, not just those it will eat".

Mr Walomu had already eaten three pigeons and now had in his paws a fourth: Asiya. Strewnalong his path, lay many others he had killed but not eaten. So who could say for sure that,months hence, Asiya would not become one of these?

Mr Walomu's opponents continued. "As for what you call 'stealing', a professor in Texassaysthat lots of people do it. He threw in a Swahili to support his claim.

"Na hivyo ndivyo ilivyo." To help it along, he gave an appropriate English equivalent. "Andthat's how the cookie crumbles."

That was mockery Professor Kimani felt had to reject. "You have three beautiful wives," hebegan. This was a silly start, as even he realised. Had he not sounded like an envious loser?Nonetheless, he went on. "All of them are young."

"And young they'll still be the day I die," Walomu added.

"Karanja, you know the saying: 'A real bull dies with green grass in its mouth' ."

QUESTIONS

a) Briefly explain what happens just before this excerpt. **(3 marks)**

.....

.....

.....

.....

b) Identify and illustrate two-character traits of Walomu in the excerpt. **(4 marks)**

.....

.....

.....

.....

.....

c) Then hear my answer. (Add a question tag) **(1 mark).**

d) Discuss two themes raised in the excerpt**.** **(4 marks)**

.....

.....

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.....

.....

e) Identify and illustrate three stylistic devices used in the excerpt. **(6 marks)**

.....

.....

.....

.....

.....

.....

.....

f) To help it along, he gave an approximate English equivalent. (Rewrite beginning with the main clause) **(1 mark).**

.....

.....

Read the song below and answer questions that follow.

LISTEN DEAR BRIDE

Oh my sister, listen
From this day, you won't go dancing,
From this day, you won't go to the dance,
From this day, you won't go dancing
You'll dance only on the path to the river.
My sister, will you listen?
From this day, you won't go chatting,
From this day, you won't sit to chat,
From this day, you won't sit chatting,
You'll only chat on the path to the farm.

Daughter of my mother, listen!
From this day, you won't enjoy teasing,
From this day, you won't enjoy to tease,
From this day, you won't enjoy teasing,
You'll only tease the baby on your lap.
Listen, my dear sister!

You'll only dance on the path to the river,
You'll only chat on the path to the farm,
You'll only tease the baby on your lap,
From this day, life will change.

Have you heard daughter of my mother?
You'll not go dancing, dance today.
You'll not go sit chatting, chat today.
You'll not enjoy teasing, tease today.
From this day, life will change.

QUESTIONS

1. With explanation, classify the above item. **(2mks)**

.....

.....

2. Who do you think are the singers in this song? Give reasons **(3mks)**

.....

.....

.....

.....

3. Identify two features which qualify this text as a song. **(4mks)**

.....

.....

.....

.....

4. Briefly explain what the society expects of a married woman as brought out in the song**. (2mks)**

.....

.....

.....

5. Giving illustrations, give two functions of this song. **(2mks)**

.....

.....

.....

6. According to the song, how do you think the bride will behave when this song is sung? **(3mks)**

.....

.....

.....

7. Explain the relationship between stanza 4 and the first three stanzas. **(2mks)**

……

……

……

8. Explain the effect/impact of the phrase "daughter of my mother" instead of"my sister" **(lmk)**

……

……

9. Add an appropriate question tag to the statement below. **(lmk)**

a) Listen, my sister

……

b) You'll only dance on the way to the river

……

QUESTION 4 GRAMMAR(15MKS)

A) Rewrite the following sentences as instructed. Do not change the meaning of the sentences (3mks)

a) Marylyn Monroe was the most beautiful woman in Hollywood in the sixties(Begin:No……)

b) I did not know that there was trouble ahead (Begin; Little….)

c) All except Maina went for games. Rewrite using "save for"

B)*Fill in the blank spaces in the following sentences with the most appropriate preposition*.(3mks)

a) Innoculation gives protection _____infection.

b) We agreed_____the general procedure.

c) It has been the same old story ever_____ he was a small boy.

C) ***Use the correct form of the word in brackets to fill in the blanks***.(3mks)

a) There was enough_____ (prove) that examination had leaked.

b) The student gave a very good _____ (describe) of the party.

c) The painting_____ (steal) from the museum.

D) Explain the difference in meaning between these two sentences

a) The hawker was selling ten day- old chicks.

The hawker was selling ten- day old chicks. (2mks)

E) For each of the following sentences, replace the underlined phrasal verb with a word that has the same meaning.(4mks)

a) I expect him to <u>pull through</u> within a week.

b) I have been at the police station. Our house was <u>broken into</u> last night.

c) Everybody knows how good you are. There is no need to <u>show off.</u>

d) After a hard day's work, I sat on acosy chair and <u>dozed off.</u>

FORM 4 ENDTERM 1 EXAMS

SERIES 1

ENGLISH

PAPER 3

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

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

INSTRUCTIONS TO THE CANDIDATES:-

- *Answer THREE QUESTIONS in this paper*
- *Question 2 is a compulsory question*
- *Where a candidate presents work on more than one optional text, only first one to appear will be marked.*
- *All answers to be written in the answers booklet provided.*

For Examiners Use Only.

Question	Maximum	Candidate's score
1	20	
2	20	
3	20	
Total Score	**60**	

FOR MARKING SCHEMES CONTACT *0746-222-000 / 0742-999-000*

QUESTIONS

1. **Either**

   (a) Write a story entitled "Pride comes before a fall" **(20 marks)**

   Or

   (b) Write a story beginning with the words:
   The whole neighbourhood was full of shouts… **(20 marks)**

2. **Compulsory set book:John Lara, *The Samaritan.*** **(20 marks)**

   "Although John Lara's literary world is religious, many of his characters are dishonest." Write an essay showing how true this statement is, using **John Lara's *The Samaritan*** for your illustrations.

3. **Either:**

   (a) "Parliament of Owls '' by Adipo Sidang.

   Expressing emotions, values, or qualities that one does not have or possess is known as hypocrisy. Justify this claim by making close references to **Adipo Sidang's Parliament of Owls** **(20 marks)**

   Or:

   (b) "Artist of the Floating World by Kazuo Ishiguro.

   Intergenerational Conflicts are dominant in modern society. Basing your illustrations on **An Artist of The floating world**, write an essay to validate thisassertion. **(20 marks)**

   Or:

   (c) *A silent Songs and Other Stories* by Godwin Shiundu

   In the face of affliction, faith is essential for man's survival. Write an essay to validate this statement inreference to **Leo Tolstoy's God Sees the Truth, but Waits**. **(20 marks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

GEOGRAPHY

PAPER 1

TIME: 2¾ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

SECTION A.

1. Give three components of the solar system. **(3mks)**

b. Identify two types of high level clouds. **(2mks)**

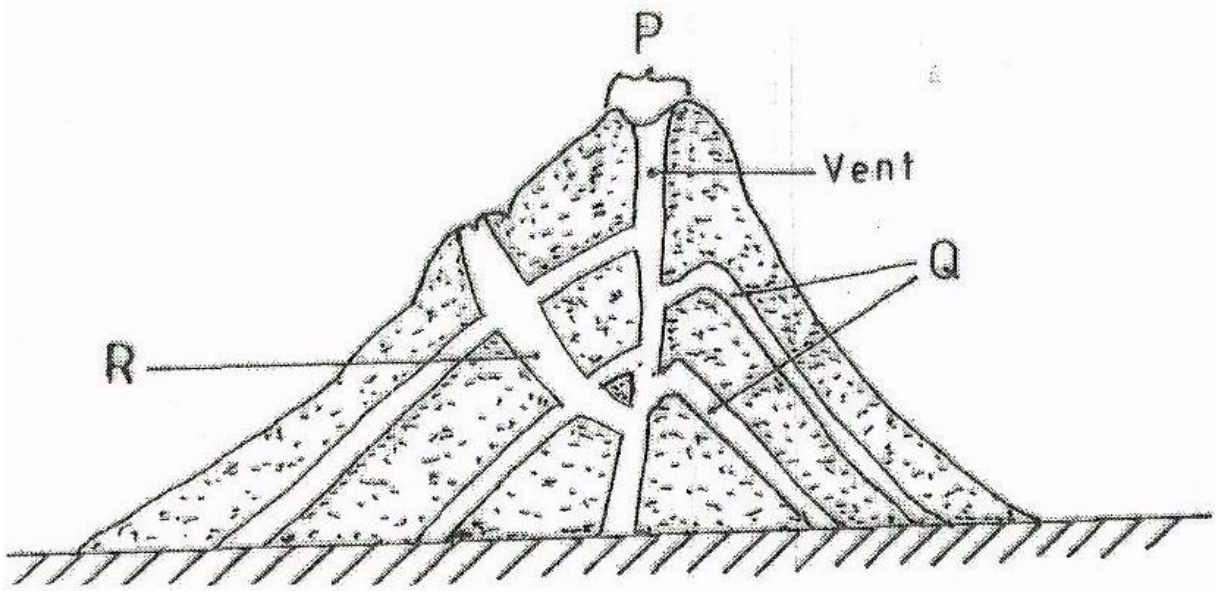
2. Draw a well labeled diagram of a hydrological cycle. **(5mks)**

b. What is weathering? **(1mk)**

3. Give three factors that influence the rate of weathering. **(3mks)**

b. The diagram below shows a composite volcano.

Name the feature marked P,Q and R. **(3mks)**



4. How is a parasitic cone formed? **(3mks)**

State three characteristics of the outer core in the interior structure of the earth. **(3mks)**

5. Name the two layers of discontinuity that are part of the interior structure of the earth. **(2mks)**

SECTION B

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

6. (a) Study the map of Tambach **1:50 000 (sheet 90/3)** provided and answer the Following questions.

(i) Name ***three*** human features found in grid square 8260. **(3 marks)**

(ii) Measure the length of all-weather road loose surface C 51from the junction near the mining camp to the southern edge of the map. Give your answer in Kilometers. **(2 marks)**

(iii) Convert the map scale into a statement scale? **(2 marks)**

(iv) Give **two** ways through which relief has been represented in the area covered by the map. **(2 marks)**

(c) Draw a square 15cm by 10cm to represent the area enclosed by easting 78 and 95 and northing 60 and 70. **(1 mark)**

On it mark and label the following features.

(i) River Kerio. **(1 mark)**

(ii) Lake Kamnorok. **(1 mark)**

(iii) Seasonal swamp. **(1 mark)**

(iv Tambach Municipality **(1 mark)**

(d) (i) Describe the drainage of the area covered by the map. **(6 marks)**

(ii) Citing evidence from the map, state ***five*** functions of Tambach town. **(5 marks)**

7. What is a mineral? **(2mks)**

ii. Describe the following characteristics of minerals **(6mks)**

- Luster
- Colour
- Density

b. Name two examples of extrusive igneous rocks. **(2mks)**

ii. Describe three ways in which sedimentary are classified. **(9mks)**

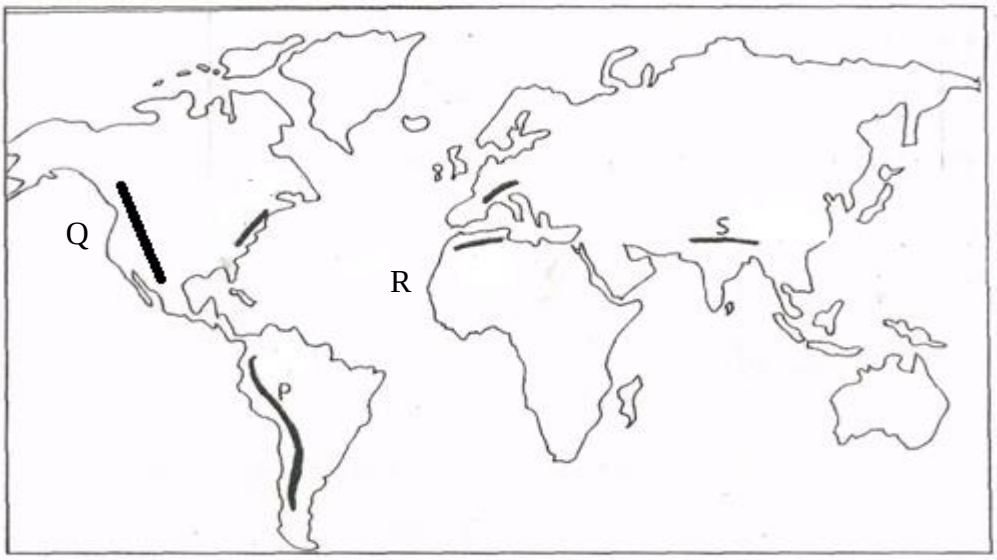
c. Explain the significance of rocks to the economy of Kenya under the following sub headings. **(6mks)**

i. Tourism

ii. Energy

iii. Water

8. The maps below show the location of some mountain ranges.



a. Name the ranges marked P,Q,R and S. **(4mks)**

b. Apart from fold mountains, name three other features resulting from folding. **(3mks)**

c. With the aid of labeled diagram, describe how fold mountains are formed. **(10mks)**

d. Explain the significance of fold mountains to human activities. **(8mks)**

9. a) i. Outline two factors that influence the development of drainage patterns. **(2mks)**

ii. Outline five characteristics of a river in its youthful stage. **(5mks)**

b. Describe the following processes of river erosion.

i. Attrition **(2mks)**

ii. Corrosion **(4mks)**

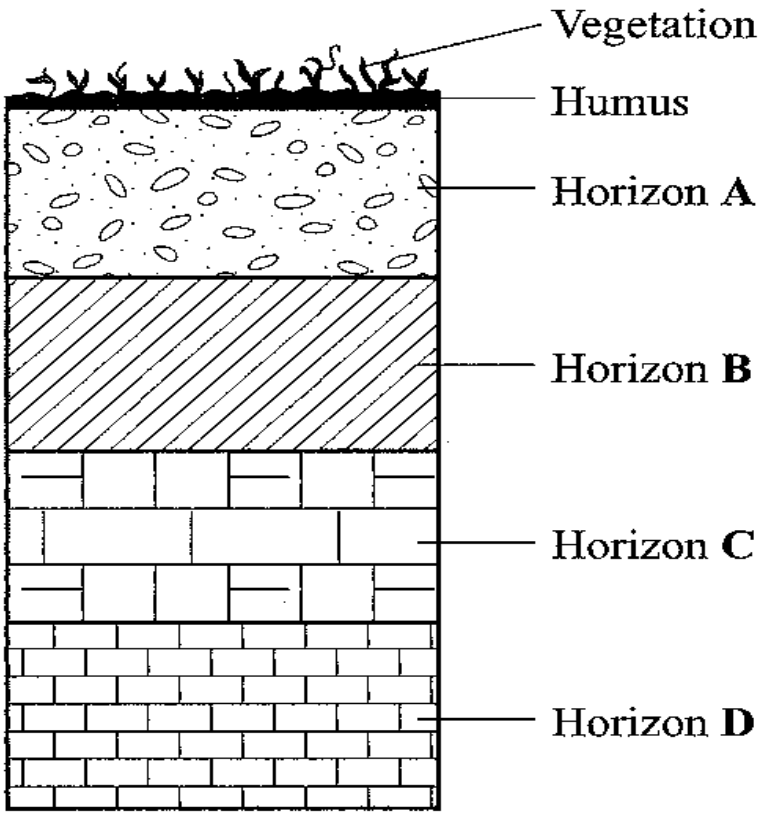
c. Explain three negative effects of rivers to the human environment. **(6mks)**

d. Your class is planning to carry out a field study of a river in its old stage.

i. State three reasons why it would be necessary to pre-visit the area of study. **(3mks)**

ii. State the three activities you would carry out to determine why deposition occurs at this stage. **(3mks)**

10. The diagram below represents a well developed soil profile. Use it to answer question (a)



a. Describe the characteristics of Horizon B. **(3mks)**

ii. Apart from humus, name three other components of soil. **(3mks)**

iii. State three ways in which humus contributes to the quality of soil. **(3mks)**

b. Differentiate between soil structure and soil texture. **(2mks)**

ii. Explain how the following factors influence the formation of soil;

- Topography
- Time **(6mks)**

c. Explain how the following farming practices may lead to loss of soil fertility.

i. Overgrazing **(2mks)**

ii. Frequent ploughing **(2mks)**

iii. Continuous irrigation **(2mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

GEOGRAPHY

PAPER 2

TIME: 2¾ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS.

a. *This paper has two sections A and B*
b. *Answer all the questions in section A.*
c. *Answer questions 6 and any other two questions from section B.*

SECTION A.

Answer all the questions in this section.

1. a) State two ways in which minerals occur. **(2mks)**

b) Describe panning as a method of mining. **(3mks)**

2. a) Differentiate between a forest and forestry. **(2mks)**

b) Give three characteristics of tropical hard wood forest. **(3mks)**

3. a) Name two main rivers which supply water to mwea tebere irrigation scheme **(2mks)**

b) State three environmental problems faced by farmers in Mwea – Tebere Irrigation scheme. **(3mks)**

4. a) State two factors that lead to the development of nucleated settlement patterns. **(2mks)**

b) Identify two differences in the function of Nairobi and New AYork. **(4mks)**

5. a) Identify two methods used to control tsetse flies in Kenya. **(2mks)**

b) State three negative effects of uncollected garbage on the environment. **(2mks)**

SECTION B

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

6. a) Study the diagram below and answer the questions that follow.

i. Name the type of photograph shown above. **(1mk)**

ii. What time of the day was the photograph taken if the camera was held facing south? **(1mk)**

iii. Draw a rectangle measuring 16cm by 9cm to represent the area of the photograph. On it sketch and label the main features shown on the photograph. **(5mks)**

iv. Describe the landscape of the area represented by the photograph. **(3mks)**

b) Identify two counties in the Rift Valley where ranching is practiced. **(2mks)**

ii. Name one exotic breed of beef cattle reared in Kenya. **(1mk)**

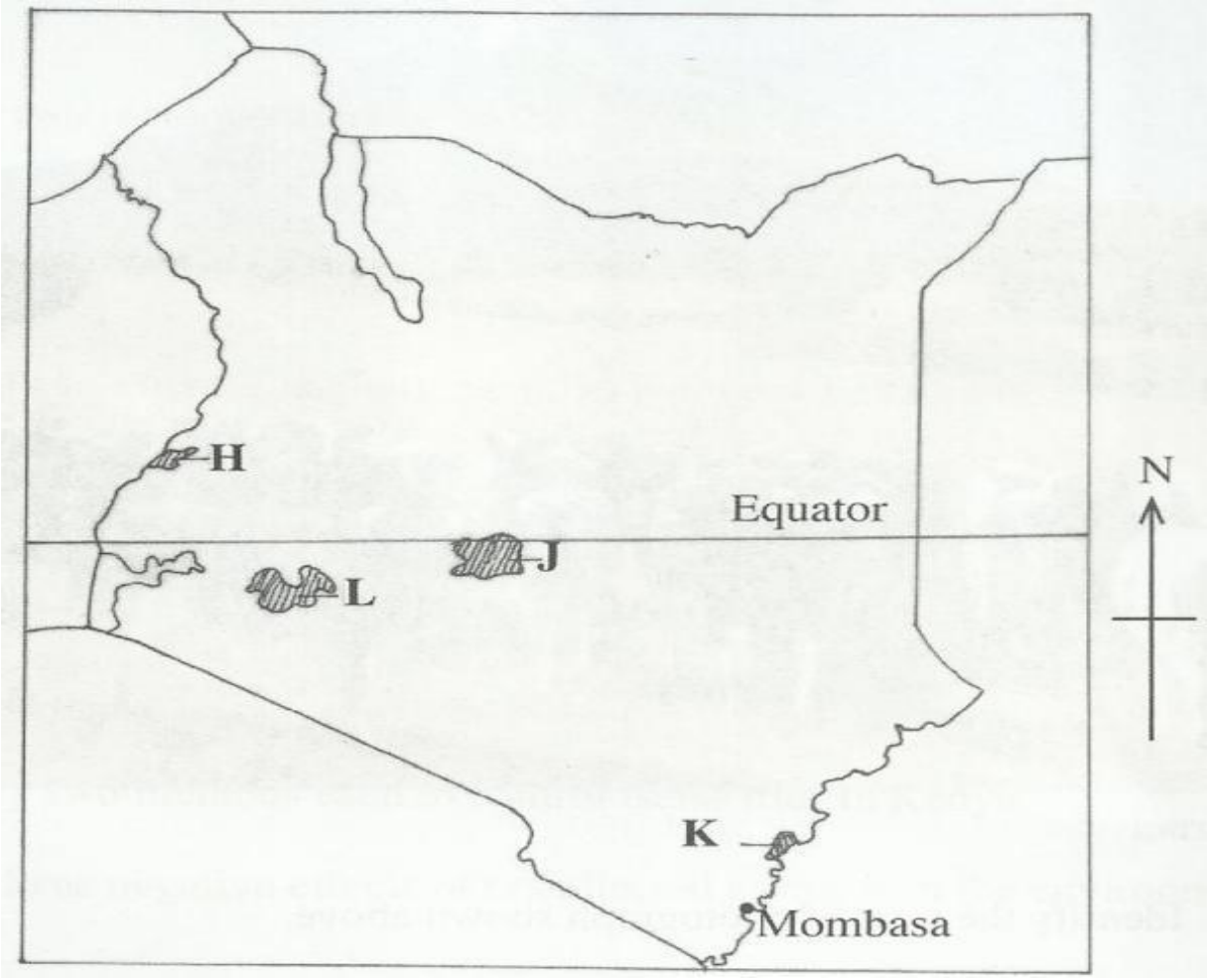
c) State four physical factors which favour beef farming in Argentina**.** **(4mks)**

d) Explain four benefits of beef farming to the economy of Argentina. **(8mks)**

7. a) What is agro-forestry? **(2mks)**

ii. Give four reasons why agro-forestry is encouraged in Kenya. **(4mks)**

b) Use the map of Kenya below and answer the questions that follow.



i. Name the forest reserves marked H, J and K. **(3mks)**

ii. Explain four factors that favour the growth of natural forest in the area marked L. **(8mks)**

c) Explain four problems facing forestry in Kenya. **(8mks)**

8. a) What is mixed farming? **(2mks)**

b) State three economic factors influencing agriculture. **(3mks)**

c) Give four physical factors influencing coffee growing in Kenya. **(4mks)**

ii. Describe coffee production in Kenya from harvesting to marketing. **(8mks)**

iii. Give three differences between coffee farming in Kenya and **Brazil.** **(6mks)**

d) You intend to carry out field study of coffee growing in a farm near your school. State two disadvantages of using secondary data during data collection. **(2mks)**

9. a) Identify three sources of renewable energy. **(3mks)**

b) Name three main hydroelectric power stations along the river Tana. **(3mks)**

ii. Apart from providing electric power, state four other benefits of the dam along the River Tana. **(4mks)**

iii. Identify two problems that affect the production of power along river Tana. **(2mks)**

c) Explain four measures the Government of Kenya has taken to conserve energy. **(8mks)**

d) Some students carried out field study on sources of energy by sampling the households around the school.

i. Identify two sampling technique the students may have used during the study. **(2mks)**

ii. Give three advantages of sampling the households for the study. **(3mks)**

10. a) Differentiate between a rural settlement and an urban centre. **(2mks)**

b) Explain how the following physical factors influence human settlement.

i. Relief **(6mks)**

ii. Climate **(4mks)**

c) Explain the causes of the following problems in urban centres in Kenya.

i. Traffic congestion **(4mks)**

ii. Environmental degradation **(4mks)**

d) Name two towns in Kenya that started as agricultural collection centres . **(2mks)**

ii. Give three social functions of Kisumu town. **(3mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

HISTORY AND GOVERNMENT

PAPER 1

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

SECTION A

1. How can anthropology be used to source information on history and government. **(1mk)**

2. Identify **one** agest among the Nandi **(1mk)**

3. Give **two** positive contributions of Seyyid said to the e economy of Kenyan coast upto 1700 AD. **(2mks)**

4. Identify **on**e way of b becoming a Kenyan citizen as per the new Constitution. **(1mk)**

5. Give the **mai**n cause of political conflicts in Kenya. **(1mk)**

6. Give **two** remedies that have been employed to curb food shortages in Kenya. **(2mks)**

7. State **two** main features of the 1962 constitution of Kenya **. (2mks)**

8. Give **two** rights of persons with disabilities in Kenya. **(2mks)**

9. Identify **one** role of religion during the Agiriama resistance. **(1mk)**

10. Give **one** impact of local government in colonial Kenya. **(1mk)**

11. State **two** roles of Africans in the provision of health services during the colonial period. **(2mks)**

12.. Give **two** ways in which h the first World War contributed to African political awareness in Kenya. **(2mks)**

13. Give **one** contributed of Daniel Moi in environmental conversation in Kenya. **(1mk)**

14. State **two** functions of the County Executive Committee. **(1mk)**

15. Identify **one** settlement scheme established by the government in former European farms**. (1mk)**

16. State **two** achievements of the Kenya African Democratic Union in Kenya. **(2mks)**

17. Identify **one** principle of public finance in Kenya. **(2mks)**

SECTION B (45MKS)

(Answer any three question)

18. (a) Give **three** reasons for the migration of Kenyan communities at the beginning of the 19th C. **(3mks)**

(b) Describe the social organization of the Somali in pre-colonial period. **(12mks)**

19. (a) State **five** factors that facilitated the coming of Arabs to the Kenyan coast by 1500AD.**(5mks)**

(b) Explain **five** factors that contributed to the decline of early city states along the Kenyan coast. **(10mks)**

20. (A) Give **three** reasons for the rise of independent churches during the colonial period. **(3mks)**

(b) Explain **six** problems that were encountered by Trade Unions during the colonial period. **(12mks)**

21. (a) Give t**hree** reasons why Africans were denied the right to grow cash crops during the colonial period. **(3mks)**

(b) Explain **six** problems faced by settlers in colonial Kenya. **(12mks)**

SECTION C (30MKS)

(Answer any 2 questions)

22. (A) State **three** functions of the national Security Council in Kenya. **(3mks)**

(b) Describe the courts structure in Kenya. **(12mks)**

23(a) Give **three** reasons that may lead to the impeachment of a governor from the officer. **(3mks)**

(b) Explain **six** challenges facing county governments. **(12mks)**

24(a) mention **five** political challenge faced by Kenya Between 1964 to 1991. **(5mks)**

(b) Discuss any **five** factors that led to re- introduction of multiparty system in Kenya. **(10mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

HISTORY AND GOVERNMENT

PAPER 2

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

SECTION A: 25 MARKS)

Answer all the questions from this section.

1. **Give** the name of the tools made by early man during the New Stone Age period. **(1 mk)**
2. **State** two distinct characteristics of Homo Erectus. **(2 mks)**
3. **Identify** one form of writing during the early civilizations resulting from early agriculture.**(1 mk)**
4. **State two** factors that promoted large-scale farming in Britain during the Agrarian Revolution. **(2 mks)**
5. **State** two ways in which poor transport system has contributed to food shortages in Africa.**(2 mk)**
6. **Identify** two political benefits of Trans-Saharan trade to the people of Western Sudan**.** **(2 mks)**
7. **State** two characteristics of Macadam roads. **(2 mks)**
8. **Give** one early source of energy. **(1 mk)**
9. **State two** political results of industrial Revolution in Europe. **(2 mks)**
10. **State** one contribution of Joseph Lister in the field of medicine in the nineteenth century.**(1 mk)**
11. **Identify** two factors that facilitated colonization of Africa in the nineteenth century.**(2 mks)**
12. **Give one** reason why the Shona supported the British forces against the Ndebele during the Anglo-Ndebele war of 1893. **(1 mk)**
13. **State one** reason why Kabaka Mwanga of Buganda collaborated with the British. **(1 mk)**
14. **Give two** political developments in South Africa which facilitated establishment of a multi-racial government. **(2 mks)**
15. **Give** the name given to Germany and her supporters during the First World War. **(1 mk)**
16. **Give** the main reason why the League of Nations was established in 1919. **(1 mk)**

SECTION B: (45 MARKS)

Answer any three questions from this section.

17. (a) Outline the physical changes that occurred on man as he developed from ape like to man like creatures. **(3 mks)**

(b) Discuss the cultural and economic practices of early human beings in New stone age period. **(12 mks)**

18. (a) Identify five ways in which iron working spread in Africa. **(5 mks)**

(b) Explain five factors that led to emergence of Japan as an industrial power. **(10 mks)**

19. (a) Give five causes of the Maji Maji rebellion of 1905 to 1907 in Tanganyika**.** **(5 mks)**

(b) Explain five reasons why Samori Toure resisted the French for so lon**g.** **(10 mks)**

20. (a) Give five qualifications for one to be assimilated in Senegal. **(5 mks)**

(b) Describe five effects of direct rule in Zimbabwe. **(10 mks)**

SECTION C: (30 MARKS)

Answer any two questions from this section.

21. (a) State three economic activities of the Baganda during the pre-colonial period. **(3 mks)**

(b) Describe the social organization of Asante Kingdom in the eighteenth century**.** **(12 mks)**

22. (a) Give three targeted areas of co-operation among East Africa community member states. **(3 mks)**

(b) Explain six factors that led to collapse of East Africa community in **1977.** **(12 mks)**

23. (a) **Name** any three political parties in India. **(3 mks)**

(b) Explain six ways how the powers of American president are controlled. **(12 mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

KISWAHILI

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

MAAGIZO:

1. ***Jibu maswali mawili.***
2. ***Swali la kwanza ni la Lazima.***
3. ***Chagua swali moja kati ya maswali matatu yaliyobaki.***
4. ***Kila insha isipungue maneno 400.***

1. **Swali la LAZIMA**
   Ukiwa Gavana Mtajika wa Kaunti yako umealikwa kuwazungumzia wanafunzi wa kidato cha nne katika shule ya Mafanikio. Andika Tawasifu utakayowasilisha. **(alama 20)**

2. Eleza jinsi udanganyifu katika mitihani utaathiri maisha ya kizazi kijacho.
   (alama 20)

3. Andika kisa kitakachothibitisha maana ya methali: Mtenda mema kwa watu atendea nafsiye.
   (alama 20)

4. Kamilisha tukio kwa maneno yafuatayo:
   "…waliwasili saa tatu baadaye. Uharibifu wa mali na maisha ulikuwa umeshatendeka wala kufika kwao hakukusaidia kwa lolote." **(alama 20)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

KISWAHILI

PAPER 2

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

1. <u>UFAHAMU (ALAMA 15)</u>

Soma kifungu kifuatacho kisha ujibu maswali

Tangu opresheni ya Usalama kuanza kutekelezwa na maafisa wa usalama katika mtaa wa Eastleigh, kumekuwa na propaganda kuwa inalenga watu wa jamii na dini Fulani.

Harakati hizi za kuwasaka magaidi sharti ziendelee na zichangiwe na kila raia ili zizae matunda tatunayoazimia kupata; kuwanasa wote wanaohusika.

Wakenya tumeishi kwa miaka mingi bila kubaguana katika misingi ya dini na ukabila. Iweje tuanze sasa miaka zaidi ya hamsini baada ya uhuru? Ndiposa tunawasihi Wakenya wote wenye nia njema kukumbuka kwamba hatuna njia ya mkato katika suala hili la ugaidi. Sharti tupambane nao. Hawa ni watu; ni ndugu zetu, rafiki zetu na watoto wetu.

Hakuna mzazi atakayejitokeza hadharani na kukiri kuwa mtoto wake ni gaidi! Hata kama atajua wazi mwanawe ni gaidi na amelipua Wakenya na ataendelea kufanya hivyo akizidi kupewa nafasi. Atanyamaza na kumtetea kwa hali na mali.

Madhara ya mashambulizi hayo ya kigaidi tayari yameanza kuonekana ambapo wamiliki wa mahoteli ya kifahari wanalalama kuwa idadi ya wageni imepungua maradufu. Hali kama hii ni hatari kwa uchumi wa nchi.

Sisi tukiwa Wakenya wapenda amani hatuna budi kuungana mkono katika oparesheni hiyo na kushirikiana na maafisa wa usalama kwa kutoa habari muhimu kuhusu washukiwa wa ugaidi. Hakuna operesheni dhidi ya wahalifu ambayo inaweza kuendeshwa bila jamii ambapo wamejificha

kuathiriwa. Heri nusu shari kuliko shari kamili; magaidi wana madhara makubwa kuliko operesheni ya usalama.

Sisi Wakenya kwa sasa tuko katika hali hii tatanishi ya kushindwa kuamua; tupambane na magaidi tuumize na Wakenya wachache wasio na hatia ama tuache tu magaidi wakae kwa sababu tunaogopa kuwasumbua hao wachache.

Kadhalika, badala ya kuangazia maeneo yenye visa vingi vya mashambulizi ya ugaidi operesheni ya usalama inafaa kuelekezwa pia katika maeneo mengineyo ambayo yamekuwa yakikumbwa na visa vya utovu wa usalama mara kwa mara.

Vikosi vya usalama vinafaa kuhakisha kuwa magenge ya aina hii hayasazwi katika operesheni hiyo. Aidha, serikali inapaswa kutoa makataa kwa kila Mkenya ambaye anamiliki bunduki kinyume cha sheria kusalimisha silaha hizo mara moja katika vituo vya polisi, la sivyo wachukuliwe hatua kali za kisheria.

Wakenya wote wafaa kuonyesha ushirikiano kwa kuwa makini zaidi. Wajiepushe na maeneo hatari ambayo yaweza kuwa makazi ya magaidi ama ya washukiwa wa ugaidi. Aliye kando haangukiwi na mti ama mshausahau huo maarufu.

MASWALI

(a) (i) Eleza uongo unaosambazwa kuhusu operesheni ya usalama mtaani Eastleigh.**(alama 1)**

……

……

(**ii)** Operesheni hii ina lengo lipi? **(alama 1)**

……

(b) Eeleza jinsi Wakenya wamekuwa wakiishi tangu uhuru. **(alama 1)**

……..

(c) (i) Magaidi wana uhusiano upi nasi kwa mujibu wa kifungu? **(alama 1)**

……

……

(ii) Eleza namna wazazi wanavyochangia kuwepo kwa ugaidi nchini. **(alama 2)**

……

……

.....

(d) Fafanua athari mbili zinazokumba nchi kutokana na ugaidi. **(alama 2)**

.....

.....

.....

(e) Wakenya wamepewa changamoto ipi ili kusaidia katika kuangamiza ugaidi?**(alama 2)**

.....

.....

.....

(f) "Wakenya wako kwenye njia panda." Tetea kauli hii ukirejelea kufungu. **(alama 2)**

.....

.....

.....

(g) Serikali inapaswa kuchukua hatua ipi dhidi ya wamiliki haramu wa bunduki?**(alama 2)**

.....

.....

.....

(h) Eleza maana ya methali hii kulingana na taarifa. **(alama 1)**

Aliye kando haangukiwi na mti.

.....

.....

2. MUHTASARI.

Soma kifungu hiki kisha ujibu maswali.

Lugha imekuwa kikwazo kikubwa katika kukuza tecknolojia ya habari na mawasiliano (TEKNOHAMA) barani Afrika . Lugha ambazo zimekuwa zikitumiwa ni za kimagharibi kama vile kijerumani , kifaransa na kiingereza. Idadi kubwa ya waafrika ,hasa wanaoishi vijijini hawazifahamu lugha hizi.

Uamuzi wa shirika la *Microsoft* wa kutumia lugha ya kiswahili katika *program* za kompyuta kuanzia mwaka 2005 ni mchango mkubwa. Kuzinduliwa kwa mradi huu ni tukio la kipekee kuimarisha tecknolojia sehemu za mashambani.

Mradi huu umewawezesha wananchi takribani milioni 150 wa janibu za Afrika Mashariki kufaidika na huduma za tarakilishi.

Utekelezaji wa mradi halikuwa jambo jepesi. Kwanza, ilibidi shirika la *microsoft* chini ya uongozi wa *Bill Gates* kulishawishi Bodi lake la wakurigenzi. Bodi liliposhawishika kuwa Kiswahili ni lugha inayo tumiwa na mamilioni ya watu liliidhinisha kuzinduliwa kwa mradi. Hatua iliyofuatia ilikuwa kuteua maneno 700,000 ya kimsingi ya kiiingereza ambayo yangetafsiriwa kwa kiswhili.

Hatua iliyofuata ilikuwa ya kutafuta ushirikiano na dola pamoja na mashirika ya kibiashara na taasisi za elimu ulimwenguni. Ilipobainika kuwa matumizi ya lugha ya Kiswahili yangehanasisha Uwekaji katika vituo vya mtandao vijijini, ushirikiano katika kuendesha mradi huu uliafikiwa bila shida. Mradi huu ulichukua muda wa miezi 18 kukamilika.Uliwashirikisha wahisika katika uwanja wa tecknolojia ya habari mawasiliano, elimu biashara na idara za Kiswahili katika vyuo vikuu vya Africa Mashariki. Vyuo –vikuu ni pamoja na Dar es Salaam . Nairobi, Kenyatta na Makerere.

Waatalamu walioshirikishwa walisaidia katika kubuni faharasa ya istilahi za Kiswahili 3,000. Hizi ni zile ambazo zinafaa kwa matumizi ya kompyuta ya kawaida na ya kila siku.

Mradi huu umeshangiliwa na wakereketwa na wapenzi wa Kiswahili katika nyanja zote. Wasomi, wanariadha , wanamuziki, watalii, wafanyabiashara , wanasiasa ,wafuasi wa dini mbalimbali na wakulima ; wote wamefurahia hatua ya Kiswahili kuingizwa kwenye mtandao.

Watu ambao walikuwa hawawezi kutumia tarakilishi kwa sababu ya kutojua Kiingereza sasa hawana kisingizio. Matumizi ya kiswahili yatapanua na kuimarisha mawasiliano baina ya watu wanaoishi vijijini na pembe zote za ulimwengu.

Jambo la kutia moyo zaidi ni kuwa sasa vyuo vikuu vinavyotoa masomo kwa kutumia mitandao vimepewa idhini ya kutumia programu hizi. Walimu na wanafunzi wanapata habari moja kwa moja kwa kiswahili bila kutafsiri . Kuna uwezekano sasa wa kusambaza mafonzo katika nyanja na viwango vyote kwa mfumo wa elimu ya mbali.

Katika ulimwengu wa utandawazi,tukio kama hili lina manufaa makubwa. Wananchi wa vijijini wanaweza kupata habari na maarifa kutoka pembe zote za dunia na kuhusu masuala tofauti tofauti kwa lugha wanyoielewa barabara.

Kusambaa kwa matumizi ya ngamizi vijijini kutaimarisha biashara inayofungamana na tecknolojia na mawasiliano .Haili hii itainua maendeleoya teknolojia na kiwango cha maisha vijijini. Bila shaka mwachano uliopo baina ya sehemu za mijini na vijijini utapunguwa.

Haya ndiyo maendeleo anayokamia kila mja wa siku hizi . Lililopo ni serikali kupania kupanua na kusambaza muundo mbinu kama –umeme na simu katika sehemu zote za nchi. Pamoja na haya , kuna haja ya kupunguza bei ya ngamizi na vipuri vyake ili kuwatia motisha watu kununua kompyuta kwa wingi. Ikumbukwe – kuwa lengo la kuanzisha mradi huu ilikuwa kuisaidia serikali kupanua na kusambaza matumizi ya huduma za kompyuta na mtandao katika shule, vituo vya kijami na maeneo ya makaazi. Huduma hizi ni msigi wa elimu, biashara na mawasiliano ya makaazi.

Maswali.

(a) Bila kubadilisha maana, fupisha aya tatu za kwanza. (Maneno 45-55) **(al.6)**

Matayarisho :

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Jibu :

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(b) Fupisha faida za mradi wa kutumia Kiswahili katika *program ya* kompyuta. (Maneno 45-55) **(al.6)**

Matayarisho :

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Jibu :

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(c) Eleza kwa ufupi serikali inahitaji kufanya nini ili kufanikisha maradi huu?

(Maneno 15 -20)

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MATUMIZI YA LUGHA

a) ***Eleza tofauti kati ya sauti za vipasuo na vikwamizo*** **(al 2)**

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……

b) ***Tunga sentensi ukitumia vitenzi vifuatavyo.*** **(al.2)**

(i) Kitenzi kishirikishi kipungufu

(ii) Kitenzi kishirikishi kikamilifu

(i)……

(ii)……

c) ***Unda nomino ya dhahania kutokana na vitenzi vifuatavyo*** **(al.2)**

(i) Cheza

(ii) Pika

(i)……

(ii)……

d) ***Tambulisha aina ya virai vilivyotumika katika sentensi zifuatazo***

(i) Walisomba changarawe **(al.1)**

……

(ii) Kwa hofu alimkabidhi matokeo **(al.1)**

…….....……

(e) ***Changanua sentensi ifuatayo kwa kutumia matawi.***

Simba waliojeruhiwa jana walikimbia vichakani **(al.4)**

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(f)***Taja aina tatu kuu za sentensi kwa kuzingatia muundo***. **(al.3)**

(i)……

(ii)……...

(iii)……..

g) ***Andika sentensi zifuatazo katika hali ya kutendewa***

i)Paka alimla panya mkubwa jana jioni **(al.2)**

……..……..……

(ii)Mwalimu mkuu amenisamehe kosa langu **(al. 2)**

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(h) ***Kanusha sentensi zifuatazo kwa umoja***

(i) Nywele zenu hukatika mnapochana **(al 3)**

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(ii)Nyinyi ndio mnaopenda kuchezea mbeleko za mtoto **(al.2)**

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(i)***Tunga sentensi ukitumia viungo vifuatavyo ili kudhihirisha maana ya dhana katika mabano.***

(al 2)

(i)Kwa…….....……..(umilikaji)

(ii)Ku…….....…….(Nafsi)

(j) ***Eleza maana mbili zinazojitokeza katika sentensi hii*** **(al 2)**

Walichukua pesa waliporudi

……..……..……

……..……

(k) ***Andika katika usemi wa taarifa.***

" Lazima ufike leo asubuhi na mapema ama sivyo hutanipata" Juma alimwambia mamake.

(al.4)

……..……..……

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(l) ***Onyesha tofauti kati ya sentensi hizi***: **(al 2)**

(i) Amefika.

(ii) Amefika!

(i)……..……

(ii)……..……

(m) ***Eleza matumizi mawili ya " ki" kisha utunge sentensi moja moja kuonyesha matumizi hayo***

(al 4)

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(n) ***Tumia kirejeshi tamati katika sentensi hii***. **(al 2)**

Malipo ambayo anapewa ni yale ambayo yanaridhisha

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ISIMU JAMII

Maenezi ya Kiswahili Afrika mashariki punde baada ya uhuru yalikuwa na chagamoto tele. Fafanua zozote tano. **(al 10)**

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FORM 4 ENDTERM 1 EXAMS

SERIES 1

KISWAHILI

PAPER 3

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

SWALI LA LAZIMA.

1. ***Soma kifungu kifuatacho kisha ujibu maswali.***

Hapo zamani za kale paliishi sungura na ndovu. Wanyama hawa waliishi baharini.Maulana alikuwa amewatunukia mapenzi si haba.Makazi yao yalikuwa yamepambwa yakapambika. Walitegemea matunda mbalimbali yaliyokuwa baharini kama mapera, matomoko, matikitimaji na kadhalika.

Siku moja usiku wa manane, maji yakaanza kupwa. Ndovu aliathirika zaidi.Alijaribu kuinama majini lakini hakuweza.Alimwita sungura amsaidie lakini sungura alikuwa ametoweka.

Ndovu aliamua kwenda kumtafuta sungura.Alimtafuta hadi msituni lakini hakumpata.Alihofia kurudi baharini na hadi wa leo yumo msituni.

Maswali

(a) Tambua utanzu na kijipera chake. **(al.2)**

(b) Taja fomyula zingine mbili za kutanguliza kifungu hiki. **(al.2)**

(c) Eleza umuhimu wa kijipera hiki. **(al.5)**

(d) Eleza sifa za kifungu hiki. **(al.5)**

(e) Eleza umuhimu wa fomyula:

(i) Kutanguliza **(al.3)**

(ii) Kuhitimisha **(al.3)**

TAMTHILIA ; BEMBEA

2. Kwa kurejelea mifano mbalimbali thibitisha namna ndoa katika tamthilia ya **Bembea ya maisha** zimemulika uhalisia wa jamii za kiafrika. **(alama20)**

3. Eleza mambo yanayorudisha bara la Afrika nyuma kulingana na tamthilia ya **Bembea ya Maisha** **(alama20)**

RIWAYA YA NGUU ZA JADI

4. ***"Unampa pesa kidogo na kumwonyesha mahaba ya pesa nane naye anadhani unataka kumwoa."***

a. Fafanua muktadha wa dondoo hili**.** **(al.4)**

b. Tambua maudhui yanayojitokeza katika dondoo hili**.** **(al. 10)**

c. Jadili nafasi ya msemaji wa maneno haya katika kujenga maudhui riwayani**.** **(al.6)**

5. **a.Fafanua** nafasi ya Mbungulu katika kujenga maudhui **riwayani.** **(al.10)**

b. Dhihirisha kuwa Bi. Mbungulu ni mwaminifu kwa kurejelea riwaya nzima. **(al.10)**

HADITHI FUPI : MAPAMBAZUKO YA MACHWEO.

6. Jadili ufaafu wa anwani ***Mapambazuko ya Machweo*** **(alama 20)**

7. Fafanua dhana ya **AJIRA** katika hadithi mapambazuko ya machweo

alama 20

USHAIRI.

Soma shairi hili kisha ujibu maswali.

Sinusubuwe akili, nakusihi e mwandani
Afiya yangu dhahili, mno nataka amani
Nawe umenikabili, nenende sipitalini Sisi tokea azali, twende zetu mizimuni Nifwateni sipitali, na dawa ziko nyumbani?

Mababu hawakujali, wajihisipo tabani
Tuna dawa za asili, hupati sipitalini
Kwa nguvu ya kirijali, mkuyati uamini Kaafuri pia kali, dawa ya ndwele fulani Nifwateni sipitali, na dawa ziko nyumbani.

Mtu akiwa halali, tumbo lina walakini
Dawa yake ni subili, au zogo huauni
Zabadi pia sahali, kwa maradhi yalo ndani Au kwenda wasaili, wenyewe walo pangani
Nifwateni sipitali, na dawa ziko nyumbani

Mtu kwenda sipitali, nikutojuwa yakini.
Daktari kona mwili, tanena kansa tumboni

Visu vitiwe makali, tayari kwa pirisheni Ukatwe kama figili, tumbo nyangwe na maini
Nifwateni sipitali, na dawa ziko nyumbani

Japo maradhi dhahili, kuteguliwa tegoni,
Yakifika sipitali, huwa hayana kifani
Waambiwa damu, kalili ndugu msaidieni
Watu wakitamali, kumbe ndio buriani
Nifwateni sipitali, na dawa ziko nyumbani

Mizimu wakupa kweli, wakueleze undani
Maradhiyo ni ajali, yataka vitu dhamani
Ulete kuku wawili, wamajano na wa kijani Matunda pia asali, vitu vyae chanoni Nifwateni sipitali, na dawa zi mlangoni?

Maswali.

1. Lipe shairi hii anwani mwafaka. **(al.1)**
2. Toa sababu zinazofanya mshairi kutaka kwenda hospitali. **(al.3)**
3. Andika ubeti wanne kwa lugha ya nathari/ tutumbi**.** **(al.4)**
4. Taja bahari **mbili** zilizotumika katika shairi hili**.** **(al.2)**
5. Tambua nafsineni katika shairi hili**.** **(al.1)**
6. Tambua toni ya shairi hili**.** **(al.1)**
7. Eleza muundo wa shairi hili**.** **(al.4)**
8. Fafanua uhuru wa mshairi unavyojitokeza katika shairi hili**.** **(al.2)**
9. Andika maana ya maneno yafuatayo kama yalivyotumika katika shairi hili. **(al.2)**
(i) dhalili
(ii) azali

FORM 4 ENDTERM 1 EXAMS

SERIES 1

MATHEMATICS

PAPER 1

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

SECTION I (50 MARKS)

Answer all the questions in this section in the space provided

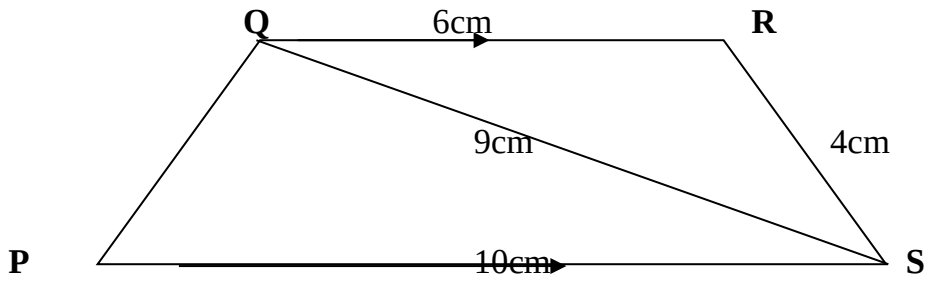
1. A boy cycles a certain distance from **X t**o **Y** at 10km/hr, he returns at 12km/hr. The total time taken is 1hr 50min. find the distance **XY**. **(3mrks)**

2. Simplify $\dfrac{p^2 - 2pq + q^2}{2p^2 - 3pq + q^2}$ **(3mrks)**

3. Solve for X in the equation. **(3mrks)**

$\frac{1}{2}\log_2 81 + \log_2 (x^2 - {}^{x}/_{3}) = 1$

4. In the figure below **PQRS** is a trapezium with **QR** parallel to **PS**.**QR**=6cm, **RS**=4cm, **QS**=9cm and **PS**=10cm



Calculate

(a). The size of angle **SQR** **(2marks)**

(b). The area of triangle **PQS** **(2marks)**

5. Find the value of x in the equation. **(3marks)**

$\cos(3x - 180^o) = \frac{\sqrt{3}}{2}$ in the range $0^o \leq x \leq 180^o$

6. A famer has a piece of land measuring 840m by 396m. He divides it into square plots of equal sizes. Find the maximum area of one plot. **(3marks)**

7. A liquid spray of 384g is packed in a cylindrical container of internal radius 3.2cm.
Given that the density of the liquid is 0.6g/cm^3, calculate to 2 decimal places the height of the liquid in the container. **(3marks)**

8. (a) Find the inverse of the matrix. **(1mark)**

$$\begin{bmatrix} 5 & -3 \\ -3 & 4 \end{bmatrix}$$

(b) Hence solve the simultaneous equation using the matrix method. **(2marks)**

$$4x + 3y = 6$$

$$3x + 5y = 5$$

9. Two pipes **A** and **B** can fill an empty tank in 3hrs and 5hrs respectively. Pipe **C** can empty the tank in 4hrs. If the three pipes **A, B** and **C** are opened at the same time find how long it will take for the tank to be full. **(3marks)**

10. A tourist arrived in Kenya with sterling pound (£) 4680 all of which he exchanged into Kenyan money. He spent Ksh.51790 while in Kenya and converted the rest of the money into US dollars. Calculate the amount he received in US dollars. The. Exchange rates were as follows. **(4marks)**

	Buying	**Selling**
US dollars $	65.20	69.10
Sterling pounds £	123.40	131.80

11. The gradient of a straight line L_1, passing through the point **P** (3, 4) and **Q** (a, b) is $^{-3}/_{2}$. A line L_2 is perpendicular to L_1 through **Q** and **R** (2, -1). Determine the values of a and b. **(3marks)**

12. Find the number of sides of a regular polygon whose interior angel is 5 times the exterior angle. **(3marks)**

13. The points A, B and C lie on a straight line. The position vectors of A and C are $2\underset{\sim}{i} + 3\underset{\sim}{j} + 9\underset{\sim}{k}$ and $5\underset{\sim}{i} - 3\underset{\sim}{j} + 4\underset{\sim}{k}$ respectively; B divides AC internally in the ratio 2:1 Find the:

(a) Position vector of B **(2marks)**

(b)distance of B from the Origin **(1mark)**

14. The sum of digits in a two digit number is 16. When the number is subtracted from the number formed by reversing the digits the difference is 18. Find the number. **(3marks)**

15. In Blessed Church Choir the ratio of males to females is 2:3. On one Sunday service ten male members were absent and six new female members joined the choir as guests for the day. If on this day the ratio of males to females was 1:3, how many regular members does the choir have? **(3marks)**

16. A businessman makes a profit of 20% when he sells a carpet for Ksh. 36000. In a trade fair he sold one such carpet for Ksh. 33600. Calculate the percentage profit made on the sale of the carpet during the trade fair. **(3marks)**

SECTION B: ANSWER ANY 5 QUESTIONS

17. A Matatu and a Nissan left town A for town B 240km away at 8.00am travelling at a speed of 90km/hr and 120 km/h respectively. After 20minutes the Nissan had a puncture which took 30minutes to mend.

(a) How far from town A did the Nissan catch up with the Matatu? **(6marks)**

(b) At what time did the Nissan catch up with the Matatu? **(1mark)**

(c) At what time did the Matatu reach town B **(3marks)**

18. The displacement, S metres of a moving particle from point O, after t seconds is given by:

$S = t^3 - 5t^2 + 3t + 10$

a) Find S when t = 2 (2**marks**)

b) Determine:

i) The velocity of the particle when t = 5sec (3**marks**)

ii) The value of t when the particles is momentarily at rest . (3 **marks**)

c) Find the time, when the velocity of the particle is maximum. (2 **marks**)

19. Four towns P, R, T and S are such that R is 80km directly to the north of P and T is on a bearing of 290° from P at a distance of 65km. S is on a bearing of 330° from T and a distance of 30 km. Using a scale of 1cm to represent 10km, make an accurate scale drawing to show the relative position of the towns. **(4mks)**

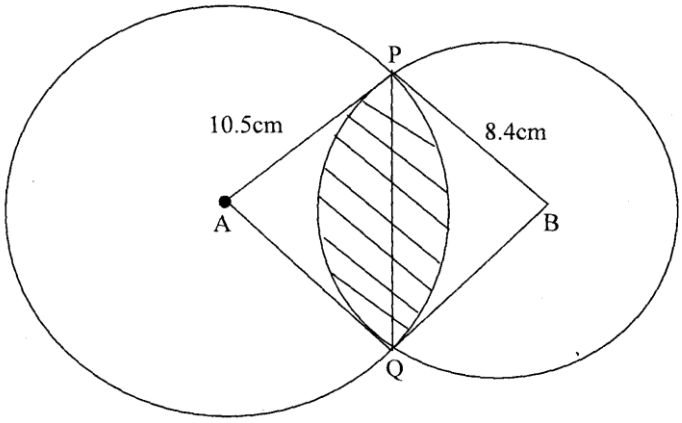
Find:

(a) The distance and the bearing of R from T **(3mks)**

(b) The distance and the bearing of S from R **(2mks)**

(c) The bearing of P from S **(lmk)**

20. The figure below shows two circles of radii 10.5 and 8.4cm and with centres A and B respectively. The common chord PQ 9cm.



(a) Calculate angle PAQ. **(2 mks)**

(b) Calculate angle PBQ. **(2 mks)**

(c) Calculate the area of the shaded part. **(6 mks)**

21. The following measurement were recorded in a field book using XY as the baseline. XY = 400m.

	Y	
C60	340	
	300	1200
	240	160E
	220	160F
B100	140	
A120	80	
	X	

a) Using a scale of 1:4000 draw an accurate map of the farm**.** **(4 marks)**

b) Determine the actual area of the farm in hectares. **(4 marks)**

c) If the farm is on sale at sh.80,000 per hectare find how much the farm costs.

(2 marks)

22. The length and breadth of a rectangle are given as (6x - 1) and (x -2) metres respectively. If the length and breadth are each increased by 4 metres, the new area is three times that of original rectangle.

i) Form an equation in x and solve it. **(4 marks)**

ii) Find the dimensions of the original triangle **(2 marks)**

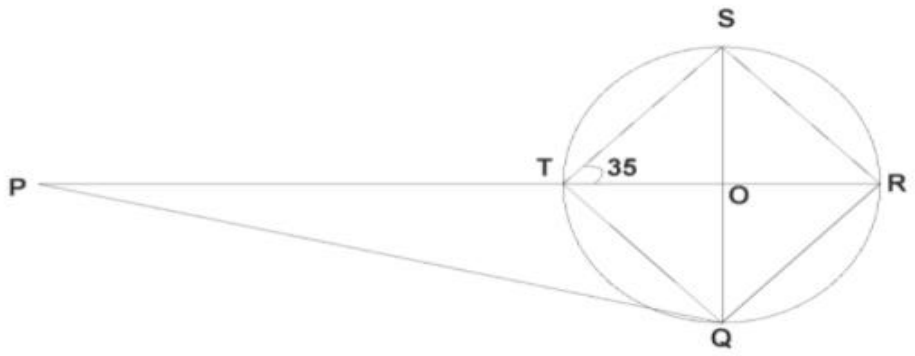
iii) Express the increase in area as a percentage of the original area. **(4 marks)**

23. X, Y and Z are three quantities such that X varies directly as the square of Y and inversely as the square root of Z.

a)Given that X = 18 when Y = 3 and Z = 4, find X when Y = 6 and Z = 16. **{5 marks}**

b) If Y increases by 10% and Z decreases by 19%, find the percentage increase in X.**{5 marks}**

24. The diagram below a circle, centre O. PQ is a tangent to the circle at Q and PTOR is a straight line. QRST is a cyclic quadrilateral in which angle RTS = 350 and RT and QS are diameters. Giving reasons for your answer, find the size of:



a) Acute angle ROS. **(2marks)**

b) Angle RQS. **(2 marks)**

c) Angle PQR. **(2 marks)**

d) Angle QPT. **(2 marks)**

e) Angle PQT. **(2 marks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

MATHEMATICS

PAPER 2

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

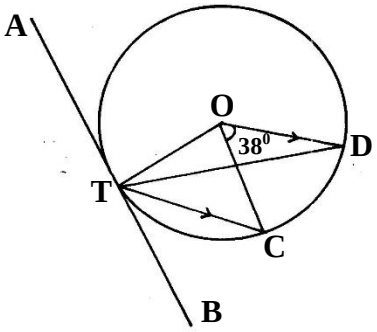
SECTION 1 (50MARKS)

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

1. The length and width of a rectangular window pane measured to the nearest millimeter are 8.6cm and 5.3 respectively. Find to four significant figures, the percentage error in the area of the window pane. (Answer to 4 significant figures) **(3mks)**

2. Without using a calculator or mathematical tables, express $\frac{\text{Cos } 30^0}{\text{Tan } 45^0+\sqrt{3}}$ in surd form and simplify your answer in the form $a + b\sqrt{c}$ where a, b and c are rational numbers. **(3mks)**

3. In the figure below, **O** is the centre of the circle which passes through the points **T,C** and **D**. Line **TC** is parallel to **OD** and line **ATB** is a tangent to the circle at **T.** Angle **DOC** = 38^0. Calculate the size of angle **CTB** **(3mks)**



4. A coffee dealer mixes two brands of coffee, ***x*** and ***y*,** to obtain 40kg of the mixture worth Ksh. 65 per kg. If brand ***x*** is valued at Ksh. 70 per kg and brand ***y*** at ks.55 per kg. Calculate the ratio, in its simplest form, in which the brands ***x*** and ***y*** are mixed. **(2mks)**

5. Find the radius and the coordinate of the centre of the circle whose equation is

$2x^2 + 2y^2 - 6x + 10y + 9 = 0$ **(3mks)**

6 a) Expand $(1 + \frac{1}{4}x)^4$ **(2mks)**

b) Use your expansion in (a) above to evaluate $(0.975)^4$ to 4 significant figures. **(2mks)**

7. When Ksh. 60,000 was invested in a certain bank for 8years it earned a simple interest of Ksh. 14,400. Find the amount that must have been invested in the same bank at the same rate for 5years to earn a simple interest of Ksh. 12,000 **(3mks)**

8. Given that $\mathbf{P = \frac{2q - r}{q + 3r}}$, express **q** in terms of **p** and **r** **(3mks)**

9. If $\overrightarrow{OA} = 3\mathbf{i} + 2\mathbf{j} - 4\mathbf{k}$ and $\overrightarrow{OB} = 4\mathbf{i} + 5\mathbf{j} - 2\mathbf{k}$, **P** divides **AB** in the ratio 3:-2. Determine the modulus of **OP** leaving your answer to 1 decimal place. Given that **O** is the origin. **(3mks)**

10. Solve for ***x*** in $2 + \log_7(3x-4) = \log_7 98$ **(3mks)**

11. A carpenter wishes to make, a ladder with 18 cross-pieces. The cross pieces are to diminish uniformly in lengths from 65cm at the bottom to 31cm at the top. Calculate the length in cm, of the eighth cross-piece from the bottom. **(3mks)**

12. A quantity **P** varies partly as **Q** and partly as the square root of **Q,** given that **P**=30 when **Q**=9, and **P**=14 when **Q**=16. Find **P** when **Q**=36. **(3mks)**

13. Seven people can build five huts in 30 days. Find the number of people, working at the same rate that will build 9 similar huts in 27days. **(3mks)**

14. (a)A and **B** are two points on earth's surface and on latitude 40^0 N. The two points are on the longitude 50^0W and 130^0E respectively. Calculate the distance from **A** to **B** along a parallel of latitude in kilometers. **(2mks)**

b) The shortest distance from **A** to **B** along a great circle in kilometres (Take $\pi = {}^{22}/_{7}$ and radius of the earth = 6370km) **(2mks)**

15. Find the inverse of the matrix $\begin{pmatrix} 3 & 1 \\ 2 & -1 \end{pmatrix}$ hence find the coordinates of the point

Of intersection of the line $3x + y = 4$ and $2x - y = 1$ **(3mks)**

16. Evaluate $\displaystyle\int_{-2}^{3} \frac{(1 - x^2)\,dx}{(1 + x)}$ **(4mks)**

SECTION II

Answer any Five questions in this section

17. The following are marks scored by form four student in Mathematics test.

Marks	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency	2	6	10	16	24	20	12	8	2

Using an assumed mean of 54.5, calculate the

a) Mean mark **(4mks)**

b) Variance **(4mks)**

c) Standard deviation **(2mks)**

18. A bag contains 5 red, 4 white and 3 blue beads. Three beads are selected at random without replacement. Find the probability that

a) The first red bead is the third bead picked. **(2mks)**

b) The beads selected were, white and blue: **(2mks)**

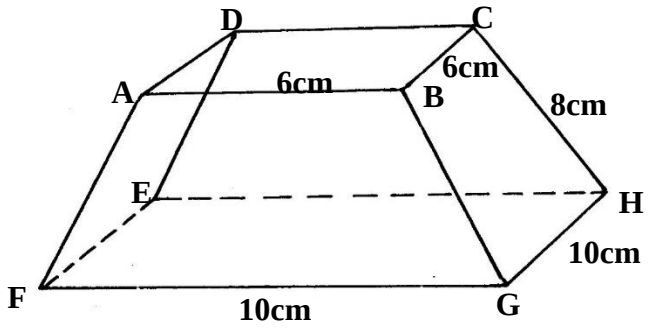
i) In that order

ii) In any order **(2mks)**

c) No red bead is picked **(2mks)**

d) Beads picked are of the same colour. **(2mks)**

19. The figure below shows solid frustum of a pyramid with a square top of side 6cm and a square base of side 10cm. The slant edge of the frustum is 8cm.



a) Calculate the total surface area of the frustum **(4mks)**

b) Calculate the volume of the solid frustum. **(3mks)**

c) Calculate the angle between the planes **BCHG** and the base **EFGH**. **(3mks)**

20. a) Using a ruler and pair of compasses only construct triangle **ABC** in which **AB** = 6.5cm, **BC**= 5.0cm and angle **ABC** = 60^0. Measure **AC** **(3mks)**

On same side of **AB** as **C** **(3mks)**

i) Determine the locus of a point **P** such that angle **APB** = 60^0 **(3mks)**

ii) Construct the locus of **R** such that **AR** = 3cm. **(1mk)**

ii) Identify the region **T** such that **AR** $\geq$ 3 and $\angle$**APB** $\geq 60^0$ by shading the unwanted part.

(3mks)

21. The table below shows income tax rates

Monthly income (Kshs)	Tax Rate (%)
Up to 9680	10
9681 – 18800	15
18801-27920	20
27921-37040	25
37041 and above	30

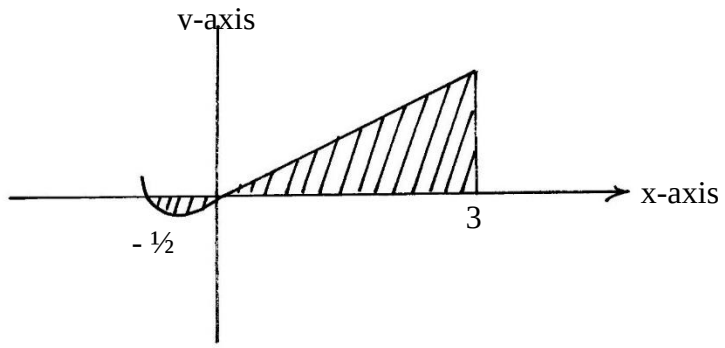
Omari's monthly taxable income is Ksh. 24200

a) Calculate the tax charged on Omari's monthly earnings. **(4mks)**

b) Omari is entitled to the following tax relief of 15% of the premium paid. Calculate the tax Omari pays each month if he pays a monthly insurance premium of Ksh. 2400 **(2mks)**

c) During a certain month, Omari received additional earnings which were taxed at 20% each shilling. Given that he paid 36.3% more tax that month, calculate the percentage increase in his earning. **(4mks)**

22. The curve of the equation $y = x + 2x^2$, has $x = ½$ and $x = 0$ as x-intercepts. The area bounded by the x-axis, $x = ½$ and $x = 3$ is shown by the sketch below.



Find

a) $\int (x + 2x^2)\, dx$ **(3mks)**

b) The exact area bounded by the curve, *x* axis $x = -½$ and $x=3$ (Give your answer to 2dp) **(7mks)**

23. a) Fill in the table below to 2 decimal places for the graph of $y = \sin x$ and $y = 2\sin(x\text{-}30)$ for the range $-180 \leq x \leq 180$ **(2mks)**

x^0	-180	-150	-120	-90	-60	-30	0	30	60	90	120	150	180
Sin x^0	0			-1.0	-0.87		0		0.87			0.5	
2 Sin $(x - 30)^0$	1			-1.73	-2.0		-1		1.0			1.73	

b) On a graph, using a scale of 1cm to represent 30^0 on the x-axis and 1cm to represent 0.5 units on the y-axis, draw the graph of $y = \text{Sin } x^0$ and $y = 2\sin(x - 30)^0$ on the same axes **(4mks)**

c) Using your graph

i) **State** the amplitude and the period of the graph $y = 2\sin(x\text{-}30)^0$ **(1mk)**

ii) Solve the equation

$\text{Sin } x^0 = 2\sin(x\text{-}30)^0$ **(1mk)**

iii) Describe fully the transformation that will map $y = 2\sin(x\text{-}30)^0$ on $y = \sin x$ **(2mks)**

24. A tailor makes two types of garments **A** and **B.** Garment **A** requires 3 metres of material while garment **B** requires 2 ½ metres of material. The tailor uses not more than 600 metres of material daily in making both garments. He must make not more than 100 garments of type **A** and not less than 80 of type **B** each day.

(a). Write down all the inequalities from this information. **(3mks)**

b) Graph the inequalities in (a) above **(3mks)**

c) If the business makes a profit of shs. 80 on garment **A** and a profit of shs. 60 on garment **B,** how many garments of each type must it make in order to maximize the total profit? **(4mks)**

FORM 4 ENDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 1

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO THE CANDIDATES

(a) Write your name and the admission number in the spaces provide above

(b) Answer all questions

For Examiner's use only

SECTION	QUESTION	MAXIMUM SCORE	CADIDATE SCORE
A	**1-11**	**28**	
B	**12-20**	**52**	

SECTION 1

1. Figure (a) below shows a velocity-time graph of motion an object

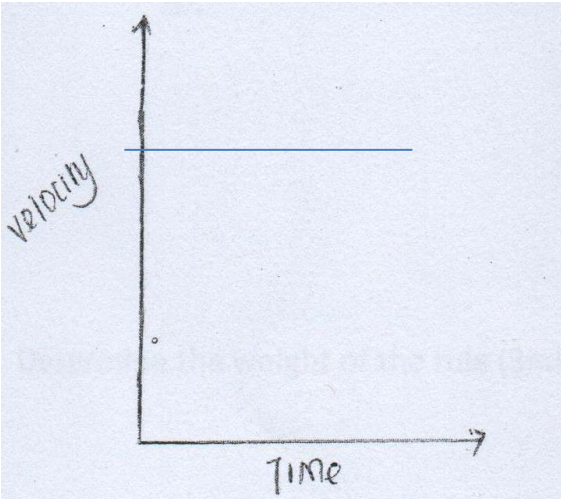


Figure 4(a)

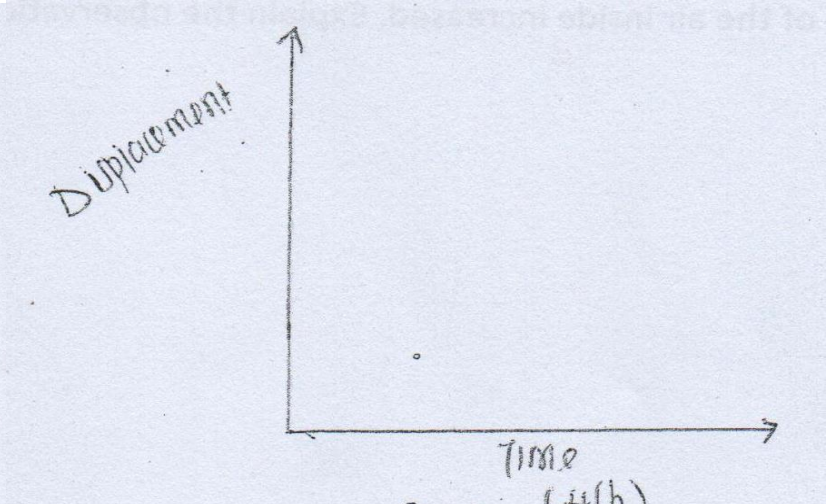
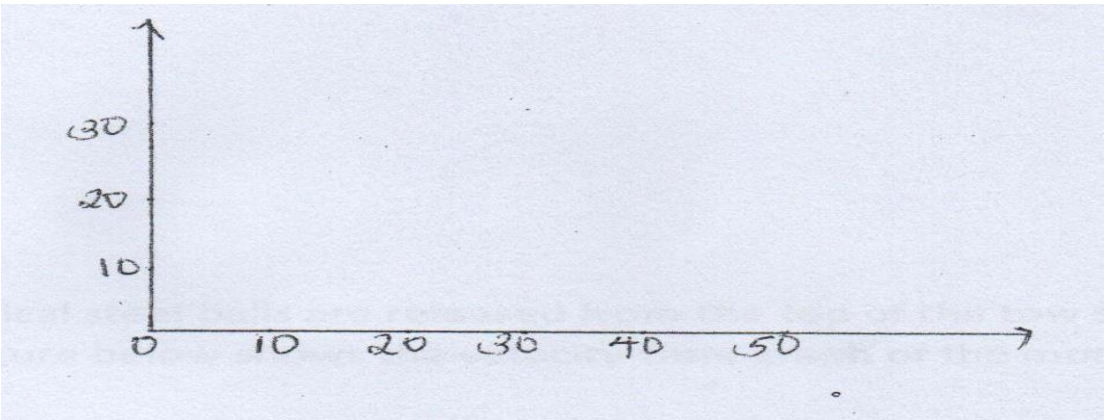


Figure (4(b)

Sketch on the axis the provided In figure (b) the displacement-time graph of the motion **(2mks)**

2. A car starts from rest accelerates uniformly for 5seconds to reach 30m/s. It continues at this speed for the next 20 seconds and then decelerates uniformly to come to stop in 10 seconds. On the axis provided, draw the graph of the velocity against time for the motion of the car **(.4mk)**



3. Water in a tin-can was boiled for some time. The tin-can was then sealed and cooled. After some time it collapsed. Explain this observation. **2mks**

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4. When a bicycle pump was sealed at the nozzle and the handle slowly pushed towards the nozzle the pressure of the air inside increased. Explain the observation. **2mks**

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5. An immersion heater rated 90W is immersed in a liquid of mass 2kg.When the heater is switched-on for 15 minutes the temperature of the liquid rises from 20°c to 30°c. Determine the specific heat capacity of the liquid (assume no heat loses). **3mks**

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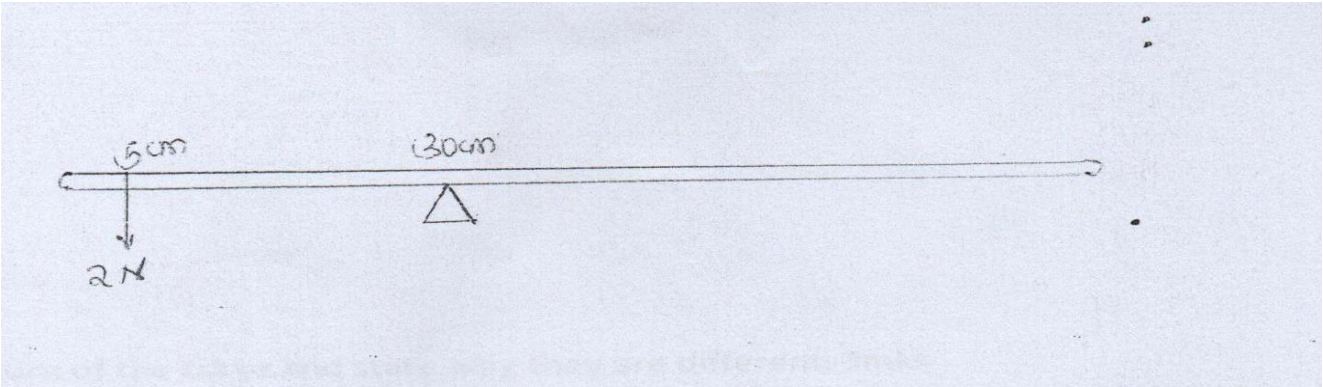
6. The figure below show a uniform meter rule pivoted at 30cm mark. It is balanced by weight of 2N suspended at the 5cm mark.



Determine the weight of the rule **(2mks)**

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7. Small quantities of hydrogen and helium at the same temperature are released simultaneously at one end of a laboratory. State with reason which gas is more likely to be detected earlier on the other end. **2mks**

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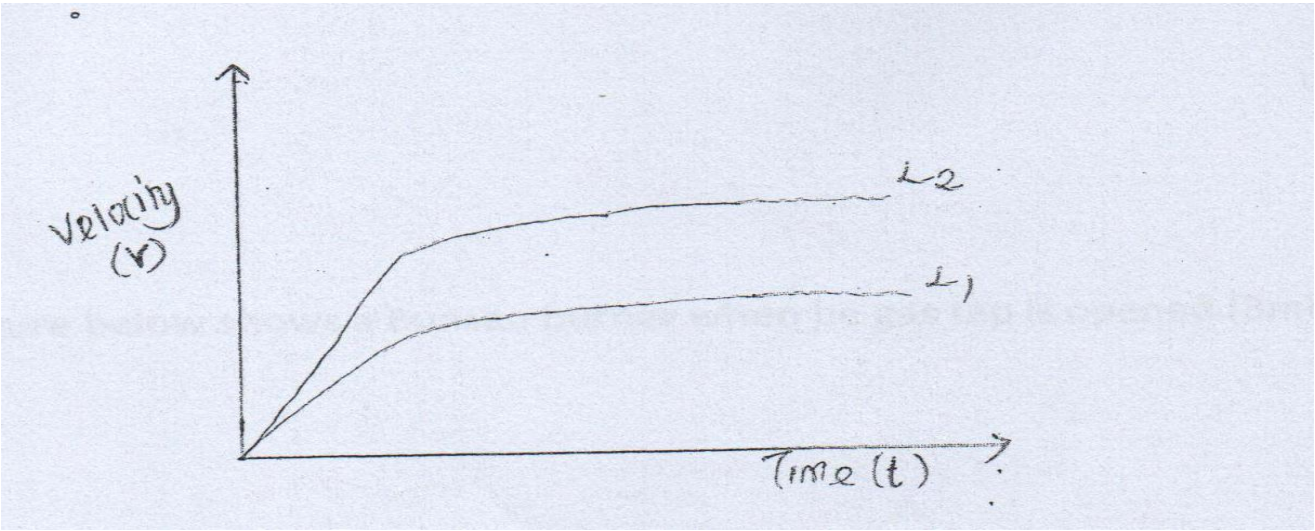
8. Two identical spherical steel balls are released from the top of two tall jars containing liquid L_1 and L_2 respectively. The figure below shows the velocity-time graph of the motion of the balls.



Explain the nature of the curve and state why they are different. **3mks**

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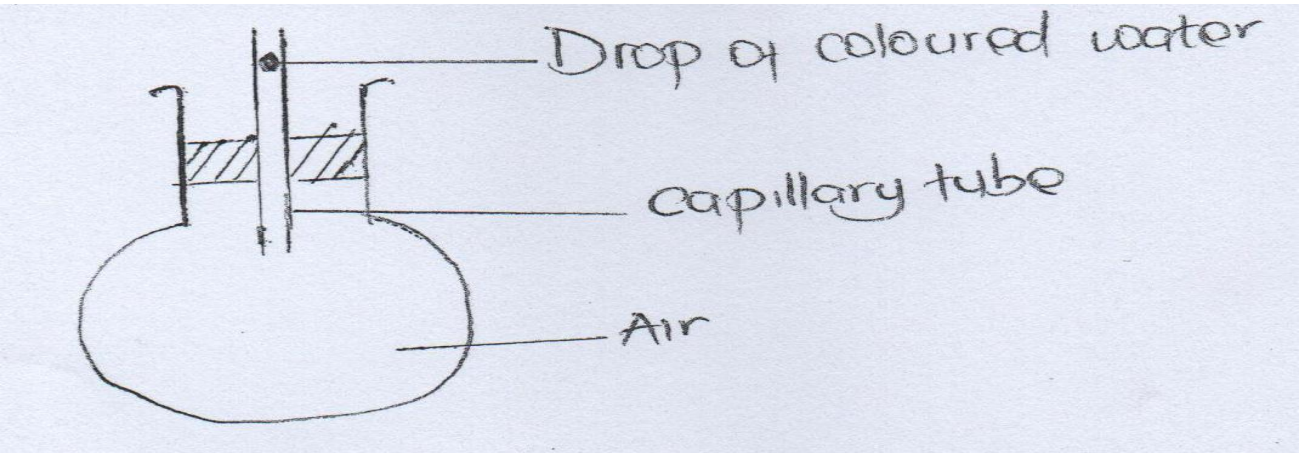
9. The figure below shows a round bottom flask fitted with a long capillary tube containing a drop of coloured water.



The flask is immersed in ice for some time. State the observation made **(2mks)**

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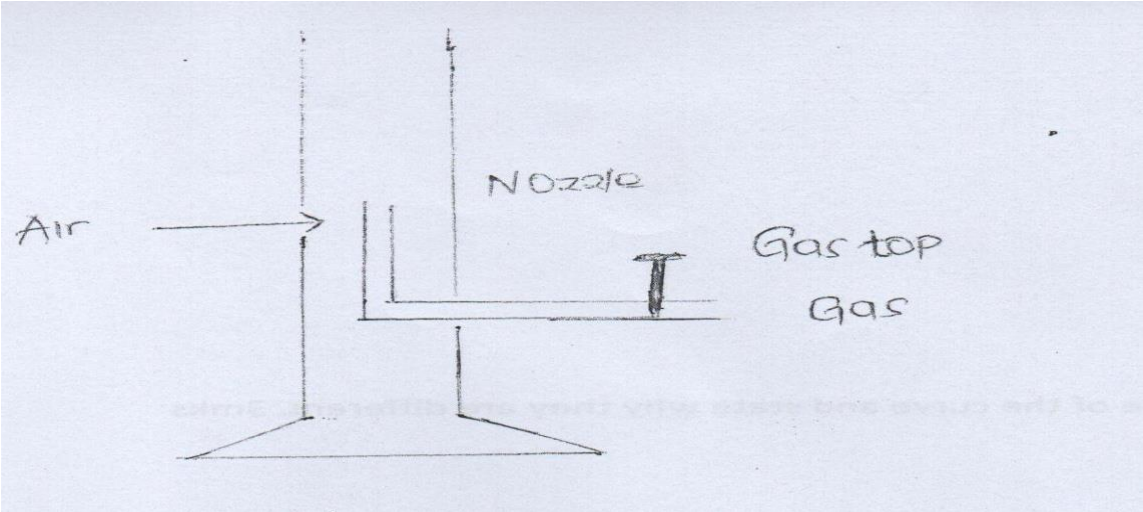
10. The figure below shows a Bunsen burner when he gas tap is opened .



Explain how air is drawn into the burner when the gas tap is opened. **(3mks)**

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11. A bag of sugar is found to have same weight on the planet earth as an identical bag of a dry saw dust on the planet Jupiter. Explain why the masses of the two bags must be different. **2mks**

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SECTION B

12 (a)A hole of area $2.0cm^2$ at the bottom of the tank 2.0M deep is closed with a cork. Determine the force of the cork when the tank is filled with water.(density of water is $1000kg/m^3$ and acceleration due to gravity is $10m/s^2$) **4mks**

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(b) The total weight of car with passengers is 25,000N.The area of contact of each of the four tyres is $0.025m^2$. Determine the minimum pressure **(3mks)**

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(c).A cyclist initially at rest moved down a hill without peddling .He applied brakes and continually stopped. State the energy changes as he cyclist moved down a hill. **(1mk)**

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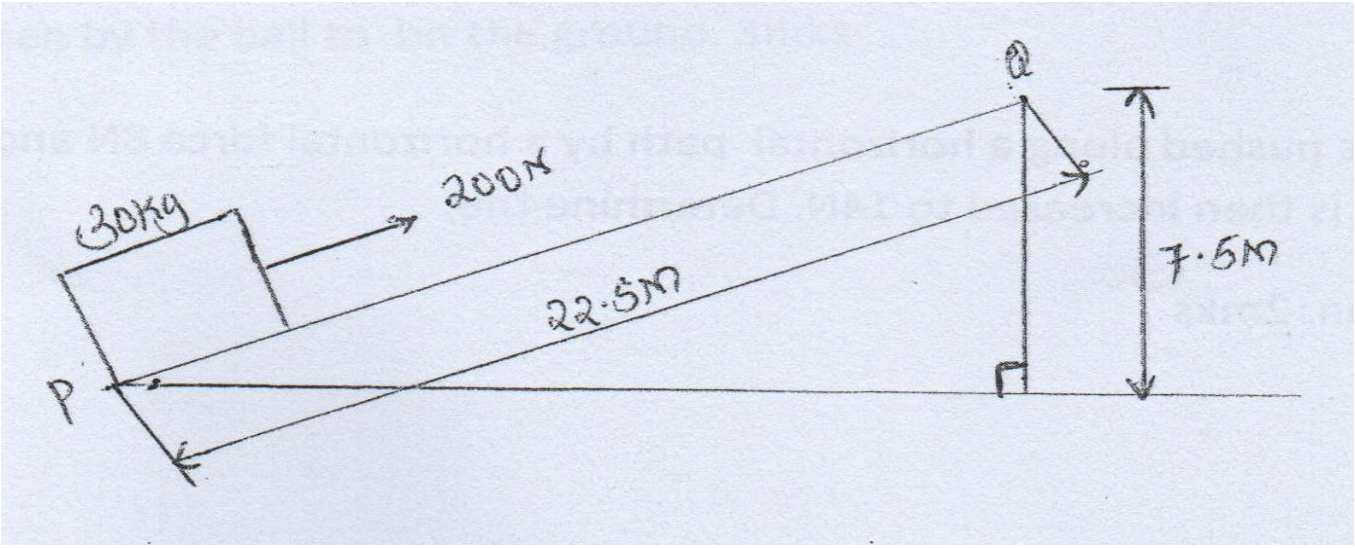
13 The figure below shows a mass of 30kgs being pulled from the point P with force of 200N Parallel to an inclined plane .The distance between P and Q is 22.5 M . In being moved from P to Q it is raised through a vertical height of 7.5 M



Determine the work done

(i) by **force** **(2Mks)**

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(ii) On the **mass** **(2mks)**

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(iii) To overcome **friction** **(1mk)**

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(iv) Determine the efficiency of the inclined plane**.** **(2MKS)**

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14. A cart of mass 30kgs is pushed along a horizontal path by a horizontal force 8N and moves with constant velocity. The force is then increased to 14N. Determine the;

(a)The resistance to the motion of the car**t.** **2mks**

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(b) The acceleration of the cart. **2mks**

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14 (C) A horizontal force of 2N is applied on a wooden block mass of 2Kgs placed on horizontal surface .It causes the block to accelerate to $5ms^{-2.}$ .Determine the frictional force between the block and the surface. **(3mks)**

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15. A ball is thrown horizontally from the top of vertical tower and strike the ground at A point 50 m from bottom of the tower. Given that the height OF the tower is 45m determine

(i) The time taken by the ball to hit the ground**.** **3mks**

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(ii)the initial horizontal velocity of the ball. **3mks**

(iii) Vertical velocity of the ball just before striking the ground (take acceleration due to gravity, g, as $10ms^{-2}$. **(3MKS)**

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16. A long horizontal capillary tube of uniform, bore sealed at one end contains dry air trapped by a drop of mercury. The length of the air column is 142mm at $17^{o}c$. Determine the length of air column **at $25^{o}C$.** **(3mks)**

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(b) The pressure of air inside a car tyre increases if the car stands out in the sun for some time on a hot day. Explain the pressure increase in terms of the kinetic theory of the gas **(3mks)**

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17. An immersion heater rated 2.5KW is immersed into a plastic jug containing 2kg of water and switched on for 4 minute . Determine.

(i) The quantity of heat gained by water **3mks**

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(ii) The temperature change of water. **(3mks)**

(Take specific heat capacity of water as 4.2×10^3 $Jkg^{-1}xk^{-1}$

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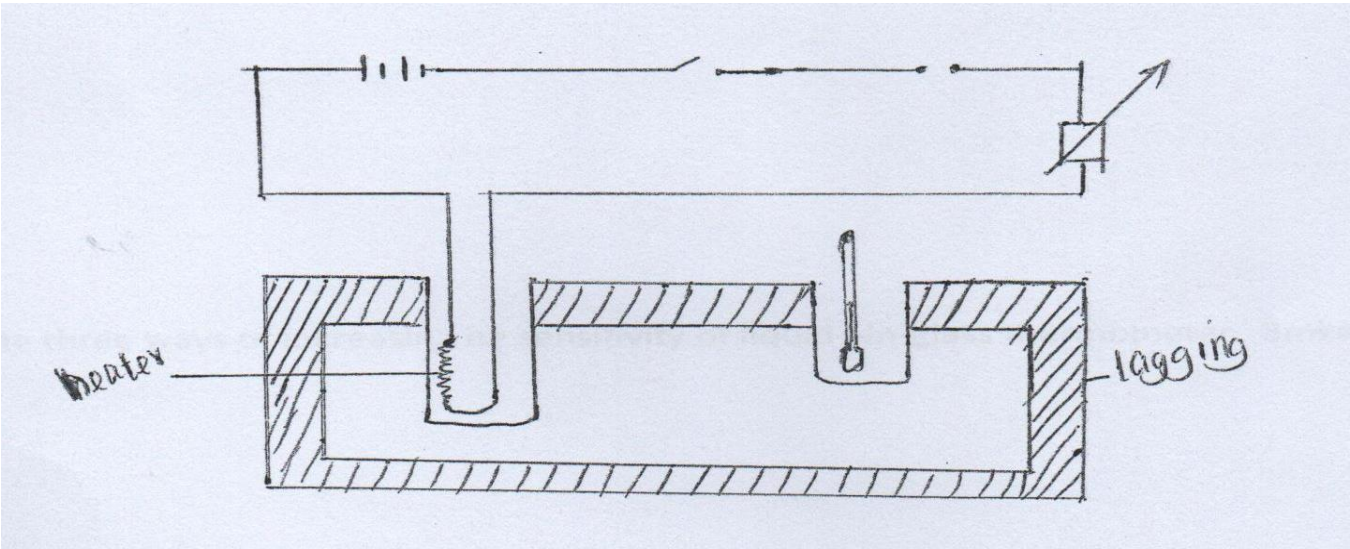
18. The figure bellow shows an incomplete set up that can be used in an experiment to determine specific heat capacity of a solid of mass M and temperature Θ_1 by electrical method.



(i) Complete the diagram by inserting the missing component of the experiment. **2mks**

(ii) Other than temperature state three measurements that should be take**n** **(3mks)**

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(iii) The final temperature was recorded Θ_2, write an expression that can be used to determine the specific heat capacity of the solid. **2mks**

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(B) State three ways of increasing he sensitivity of liquid –in-glass thermometer. **3mks**

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FORM 4 ENDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 2

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

a) *Write your name and Index No. in the spaces provided above.*
b) *Sign and write the date of the examination in the space provided above*
c) *This paper consists of Two sections; A and B*
d) *Answer ALL the questions in Section A and B in the spaces provided.*
e) *All working MUST be Clearly shown*
f)Non*-programmable silent electronic calculators and KNEC Mathematical tables may be used for calculations*

FOR EXAMINER'S USE ONLY

Section	Question	Maximum score	Candidates score
A	1-12	25	
B	13	13	
	14	11	
	15	12	
	16	11	
	17	8	
	TOTAL	**80**	

SECTION A (25 MKS)

1. Figure 1 shows a pencil lying in front of a plane mirror. The pencil is moved 2cm towards the mirror in the same orientation.

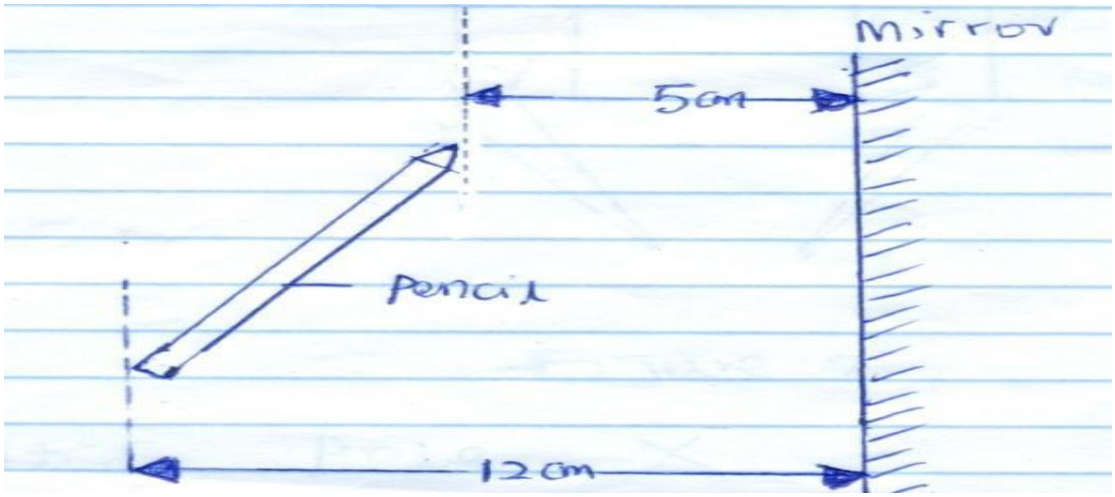

Figure 1

Determine the distance between the new position of the tip of the pencil and its image. **(2mks)**

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2. (a) State the basic law of magnetism. **(1mks)**

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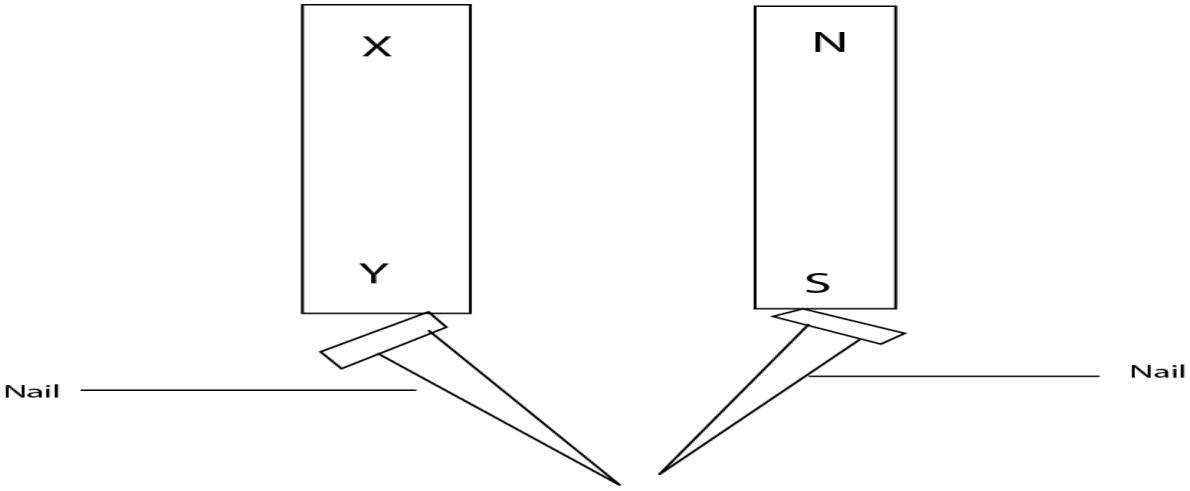
b) Figure 2 shows two bar magnets, one whose poles are labelled and a second one whose poles are labelled X and Y. Iron nails are attracted to the lower ends of the magnets as shown.



(1mk)

Identify pole **X** ……

3. State the reason why convex mirror is preferred over a plane mirror for use as a driving mirrors in cars. **(1mk)**

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4. Figure 3 shows the displacement-time graph for a certain wave.

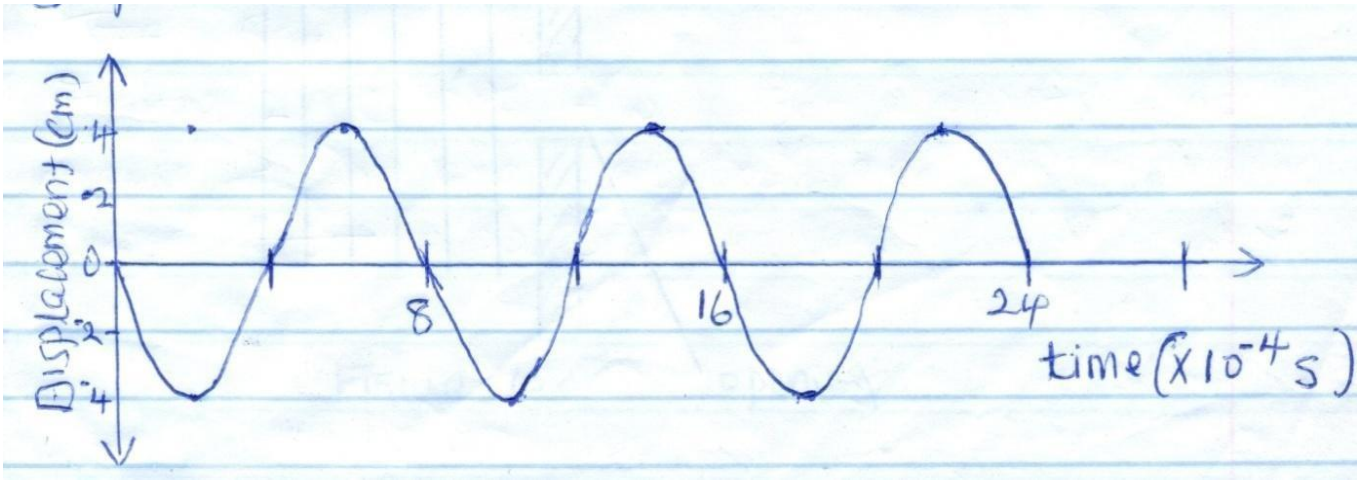

Figure 3

a) Determine the frequency of the wave. **(2mks)**

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b) On the same diagram, draw a wave with half the amplitude and twice the frequency of the one shown. **(1mk)**

(a)State the main difference between primary chemical cells and secondary chemical cells. **(1mk)**

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b) State how the design of a dry Lechlanche cell reduces polarization. **(1mk)**

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5. Figure 4 shows a wave incident on a narrow opening.

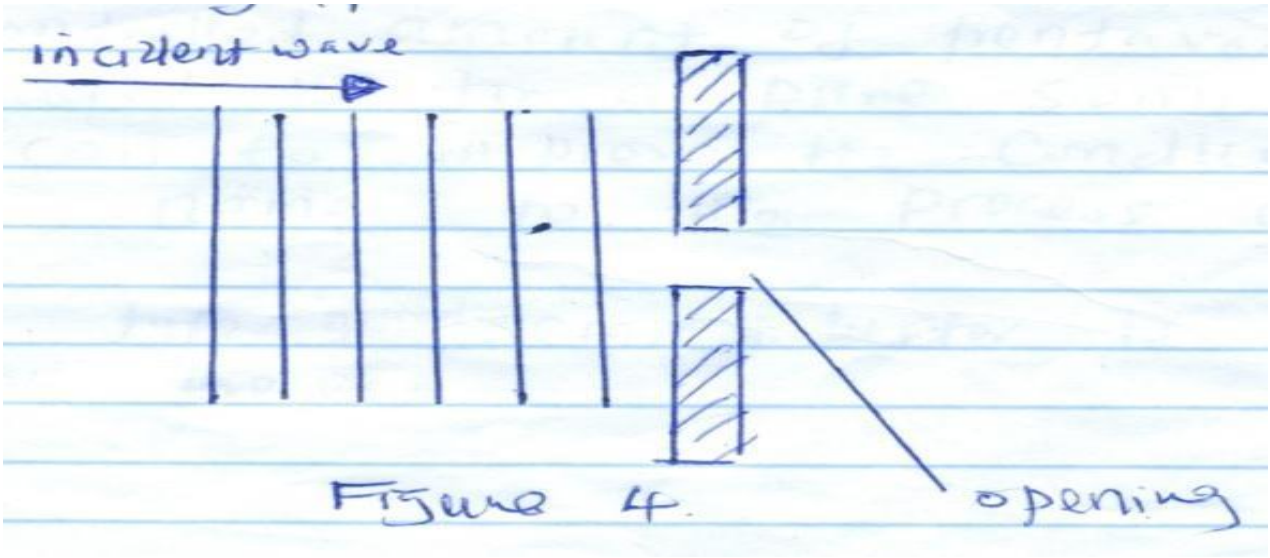

Figure 4

Draw the appearance of the wave after passing through the opening. **(1mk)**

6. A student stands between two classroom walls and claps. After 0.6 seconds, she hears the first echo and hears the second echo after 0.8 seconds. Determine the distance from the student to the further wall. Take speed of sound in air = 320m/s. **(3mks)**

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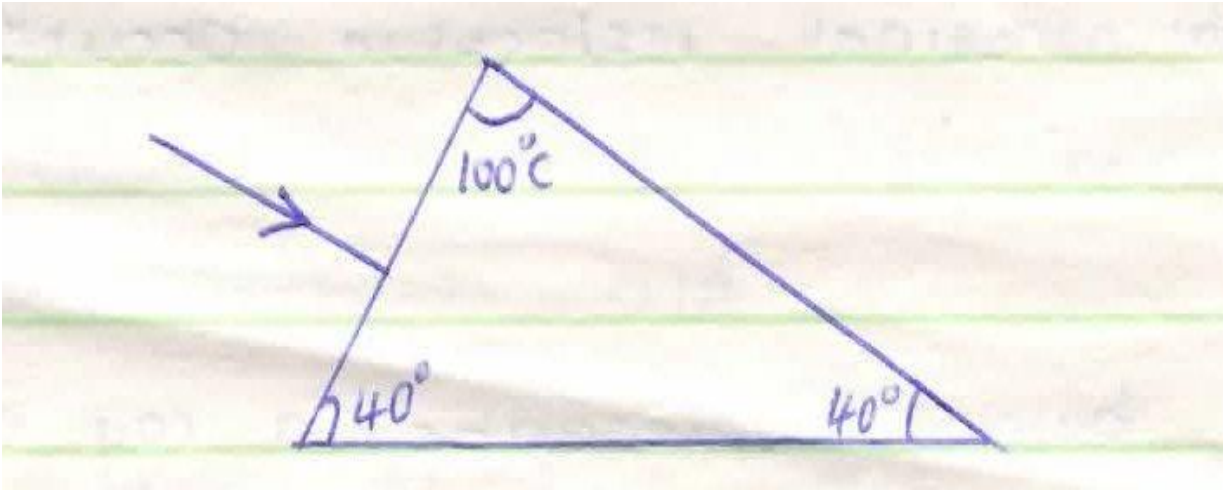
7. In the fig. 4 shown below (not drawn on scale) sketch the path of a ray till it emerges from the prism. **(1mk)**



8. Describe the changes that can be observed during discharging process of lead-acid accumulator. **(2mks)**

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9. Figure 5 shows the cross-section of two bar magnets and a current carrying conductor held between them. The direction of current is into the paper.

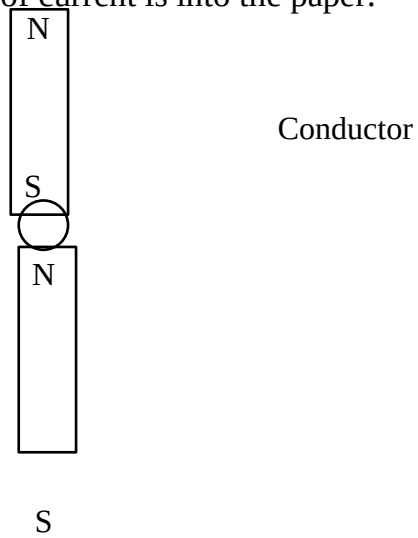

Figure 5

a) indicate with an arrow the direction of force experienced by the conductor. **(1mk)**

b) State one way in which the force on the conductor above can be reduced. **(1mk)**

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10. Distinguish between transverse and longitudinal waves. **(2mks)**

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11. a) State Ohm's law. **(1mk)**

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b) Figure 6 shows an electrical circuit.

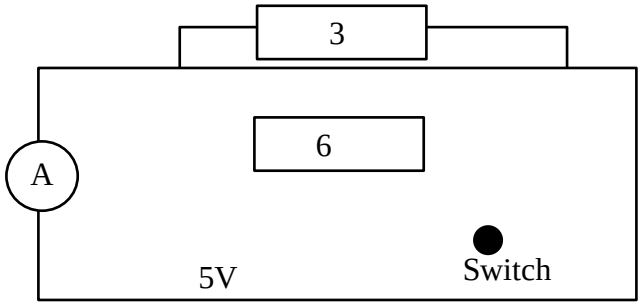

Figure 6

Determine the Ammeter reading in a closed circuit. **(3mks)**

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SECTION B (55 MARKS)

12. Figure 7 below shows a narrow beam of white light onto a glass prism.

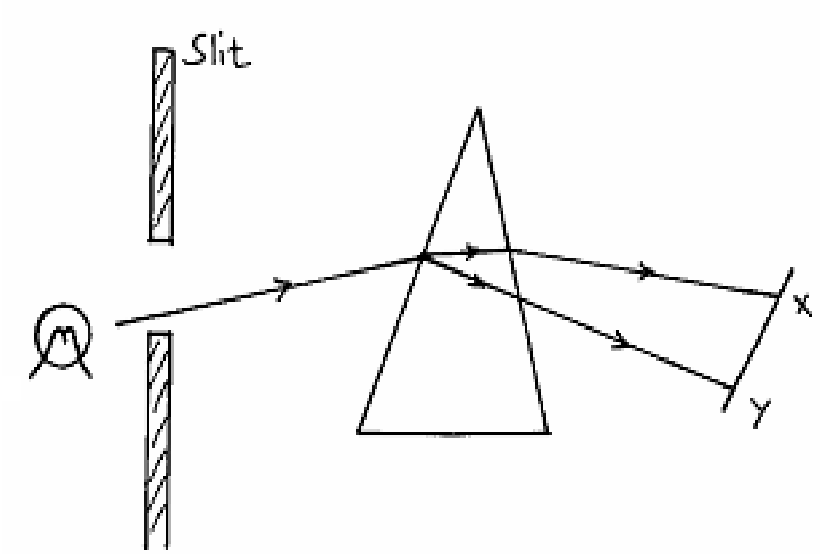

Figure 8

(i) What is the name of the phenomenon represented in the diagram? **(1mk)**

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(ii) Name the colour at **X** and **Y**. Give a reason. **(3mks)**

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(iii) What is the purpose of the slit? **(1mk)**

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(b) Figure 8 below shows the path of ray of yellow light through a glass prism.

The speed of yellow light in the prism is 1.8×10^8m/s.

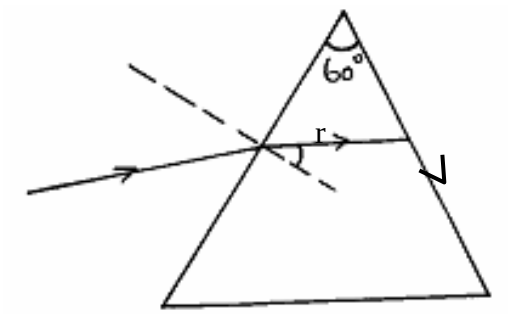

Figure 8

(i) Determine the refractive index of the prism material (speed of light in vacuum C = 3.0×10^8m/s). **(3mks)**

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(ii) Show on the same diagram, the critical angle, c, and hence determine its value. **(3mks)**

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(iii) Given that r = 31.2°, determine the angle □. **(3mks)**

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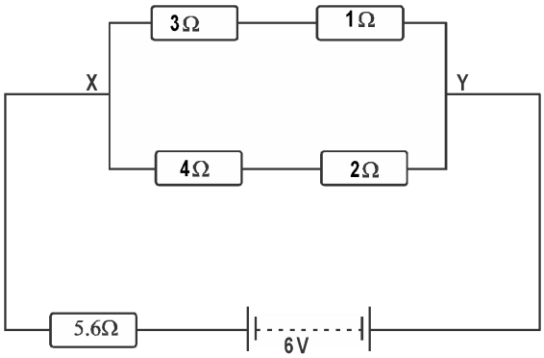
13. (a) The figure below shows resistors in a circuit. The internal resistance of the battery is negligible.



i) Calculate the effective resistance of the circuit. **(3 marks)**

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ii) Find the total current in the circuit. **(3 marks)**

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iii)P.d between X and Y **(2 marks)**

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(b)Define the term "e.m.f" of a cell. **(I mark)**

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(c)Why is repulsion the surest way for polarity of a magnet. **(1 mk)**

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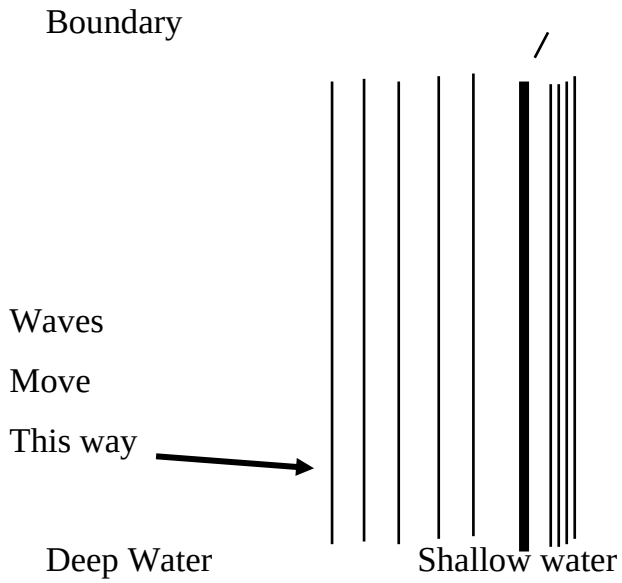
14. Some plain water waves were produced in a ripple tank. They pass from a region of deep water into aregion of shallow water. The figure shows what the waves look like from above



a. State what happens at the boundary to:

i. The frequency of the waves **(1 mark)**

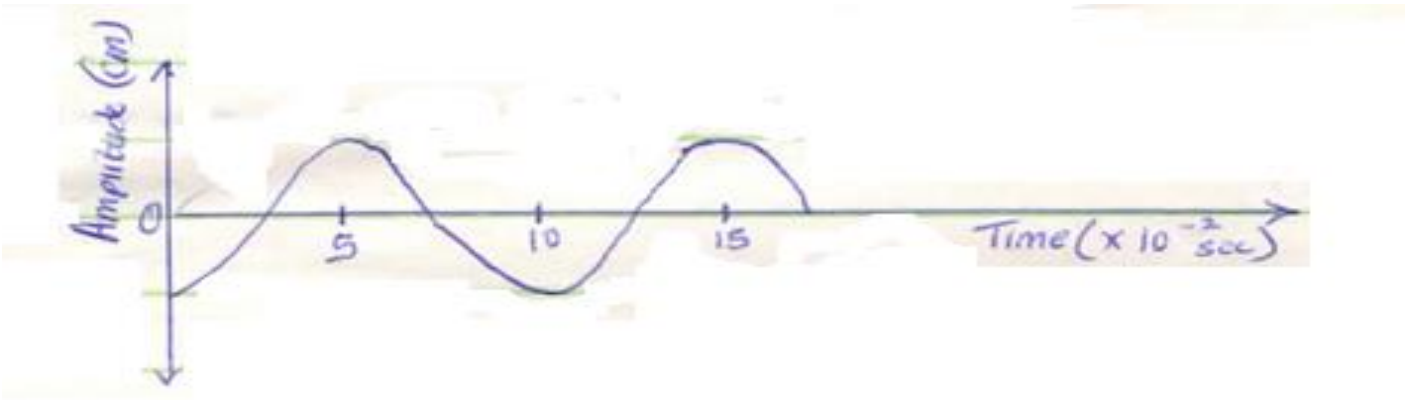
ii. The speed of the waves **(1 mark)**

iii. The wave length of the waves **(1 mark)**

b. The waves have a speed of 0.12m/s [in the deep water. Wave crests are 0.08m apart to the deep water. Calculate the frequency of the sources producing the waves. **(3 mks)**

c. State two differences between a stationary wave and a progressive wave. **(2 marks)**

d. The wave shown in the figure below has a velocity of $200ms^{-1}$



Determine:

(i) The period T of the wave. **(2mks)**

(ii) The frequency of the wave. **(2mks)**

(iii) The wavelength of the wave. **(2mks)**

e. State two difference between electromagnetic waves and mechanical waves. **(2 mks)**

15. a) State two factors that affect the strength of an electromagnet. **(2 mks)**

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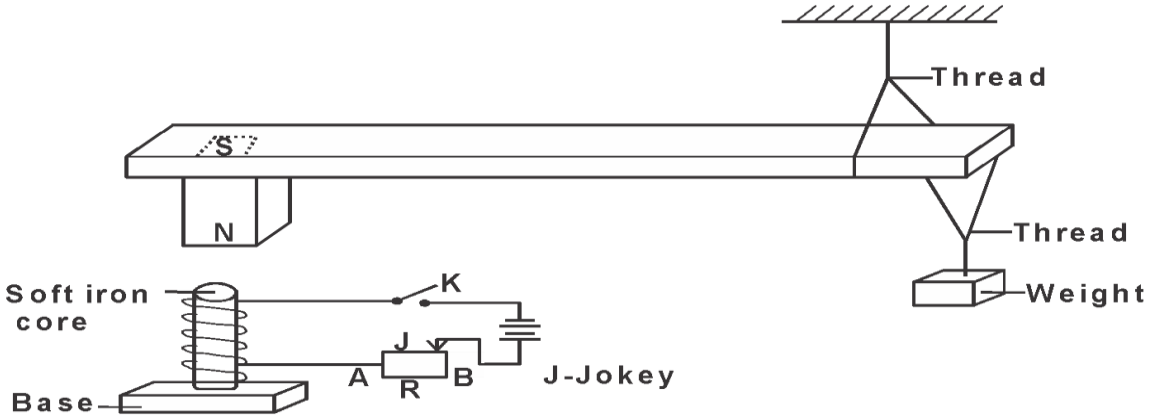
b) Figure below shows suspended metre rule in equilibrium balanced by the magnet and weight shown. The iron core is fixed to the bench.



i) State and explain the effect on the metre rule when the switch S is closed. **(3 marks)**

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ii) State and explain the effect on the metre rule when the terminals of battery are reversed. **(2 marks)**

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iii) Suggest how J on the set up can be varied to have metre rule tilt anticlockwise faster. **(1 mark)**

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iv) Explain your suggestion in b(iii) above. **(3 marks)**

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FORM 4 ENDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 3

CONFIDENTIAL INSTRUCTIONS TO SCHOOLS

Question 1

Provide each candidate with the following apparatus.

- *Metre rule*
- *Complete stand*
- *A spring with a pointer of spring constant 10N/m*
- *Three masses (one 100g mass and two 50g mass)*
- *Stop watch*
- *Vernier calipers (to be shared)*
- *Electronic beam balance (to be shared which records to 1dp)*
- *A rubber bung (hard) (D= 25.3 mm, d= 20.0mm and h = 28.1mm) (size of the mouth of boiling tube)*

NB rubber cork can be used and the teacher to come up with marking scheme)

Question2

- *100cm nichrome wire SWG 32mm mounted on millimeter scale*
- *An ammeter 0-3 A*
- *A voltmeter*
- *Two new dry cells*
- *A cell holder*
- *A switch*
- *Six connecting wires (atleast four with crocodile clips at the end)*
- *A torch bulb 2.5v fixed into a lamp holder*
- *A jockey*

FORM 4 ENDTERM 1 EXAMS

SERIES 1

PHYSICS

PAPER 3

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

a) *Answer all questions in the spaces provided in the question paper.*

b) *You are supposed to spend the first 15 minutes reading the whole paper carefully before commencing your work.*

c) *Candidates are advised to record their observations as soon as they are made.*

d) *Marks are given for observation actually made, their suitability, accuracy and the use made of them.*

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	20	
TOTAL	40	

QUESTION 1

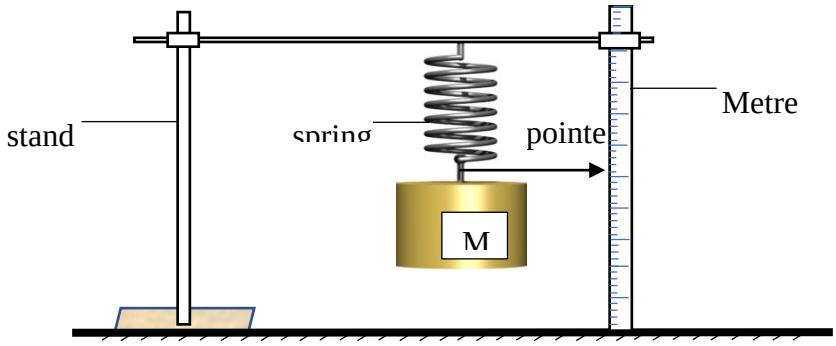
PART A

You are provided with the following;

- Metre rule
- Complete stand
- A spring with a pointer
- Three masses (one 100g mass and two 50g mass)
- Stop watch

Proceed as follows;

a) Set up the apparatus as shown;



b) Hang the unloaded spring and record the pointer readings.

X_0 …….. m (1 mk)

c) i) Load a mass of 150g and determines the extension of the spring

e_1 …… m (1mk)

ii) Displace the 150g mass slightly downwards and release it to oscillate vertically. Time 20 oscillations and obtain t_1.

t_1 …… s (1mk)

iii) find the periodic time T_1.

T_1 …….. s (1mk)

iv) use the equation $T_1 = 2\pi\sqrt{\frac{e}{p}}$ to find the value of P_1. **(2mks)**

……

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d) i) Load a mass of 200g and determines the extension of the spring

e_2 …… m (1mk)

ii) Displace the 200g mass slightly downwards and release it to oscillate vertically. Time 20 oscillations and obtain t_2.

t_2 …… s **(1mk)**

iii) find the periodic time T_2.

T_2 …….. s **(1mk)**

iv) use the equation $T_2 = 2\pi\sqrt{\frac{e}{p}}$ to find the value of P_2. **(2mks)**

……

…

e) find the average of p. **(2mks)**

$p_{av} = \frac{p1+p2}{2}$

……

……

……

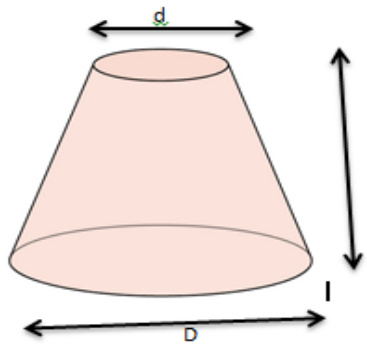
PART B

You are provided with the following;

- A rubber bung
- Vernier calliper
- Beam balance

Proceed as follows

a) Using the Vernier calliper, measure the length D, d and h as shown in the figure.



D……m (1mk)

d……..m (1mk)

h……..m (1mk)

b) Measure the mass M, of the rubber bung using the beam balance.

M = …… **Kg (1mk)**

c) Given that Q = $\frac{d+D}{4}$, determines the value of Q**. (1mk)**

d) Determines the value of " r " given that **(3mks)**

$\pi rQ^2 = M/h$

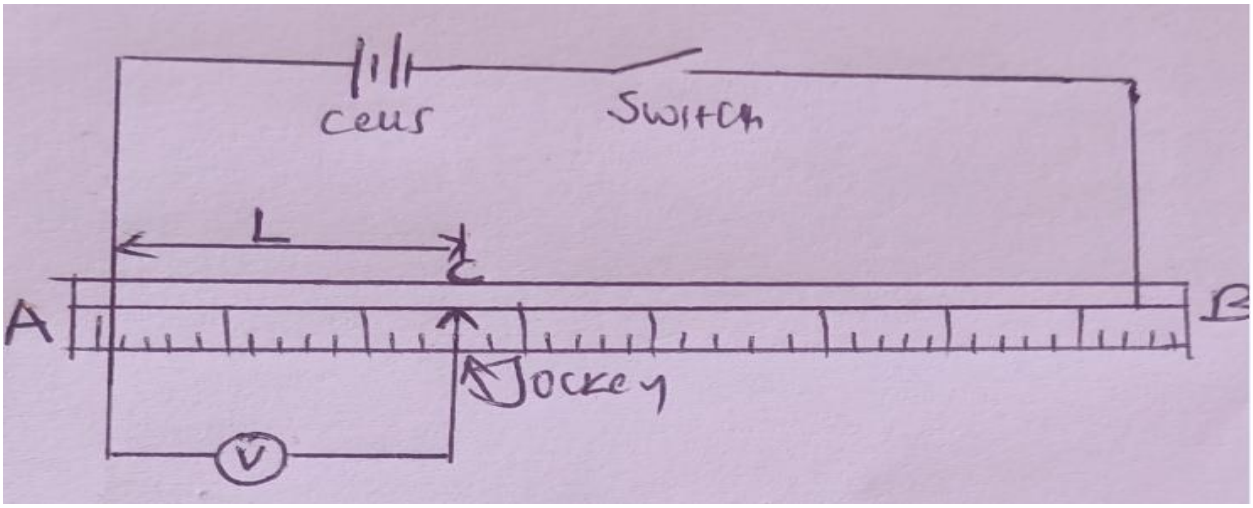
QUESTION 2

You are provided with the following.

- An ammeter (0-3A)
- A voltmeter (0-5V)
- 2 Dry cells
- A resistance wire mounted on mm scale
- 6 c0nnecting wires
- A torch bulb in a bulb holder
- A cell holder
- A switch
- A jockey

Proceed as follows.

a) Connect the apparatus as shown in the diagram below.



b) With AB= 100cm and jockey at C, 10cm from A, close the switch and record the voltmeter reading, V, in the table below.

c) Repeat the experiment in (b) above for the following lengths L= 20cm, 30cm, 40cm, 50cm, 60cm, 70cm, and 80cm. **(4mks)**

Length L (cm)	10	20	30	40	50	60	70	80
Pd V (v)								

d) Plot a graph of Pd v against length L **(5mks)**

e) Determine the slope S of the graph **(2mks)**

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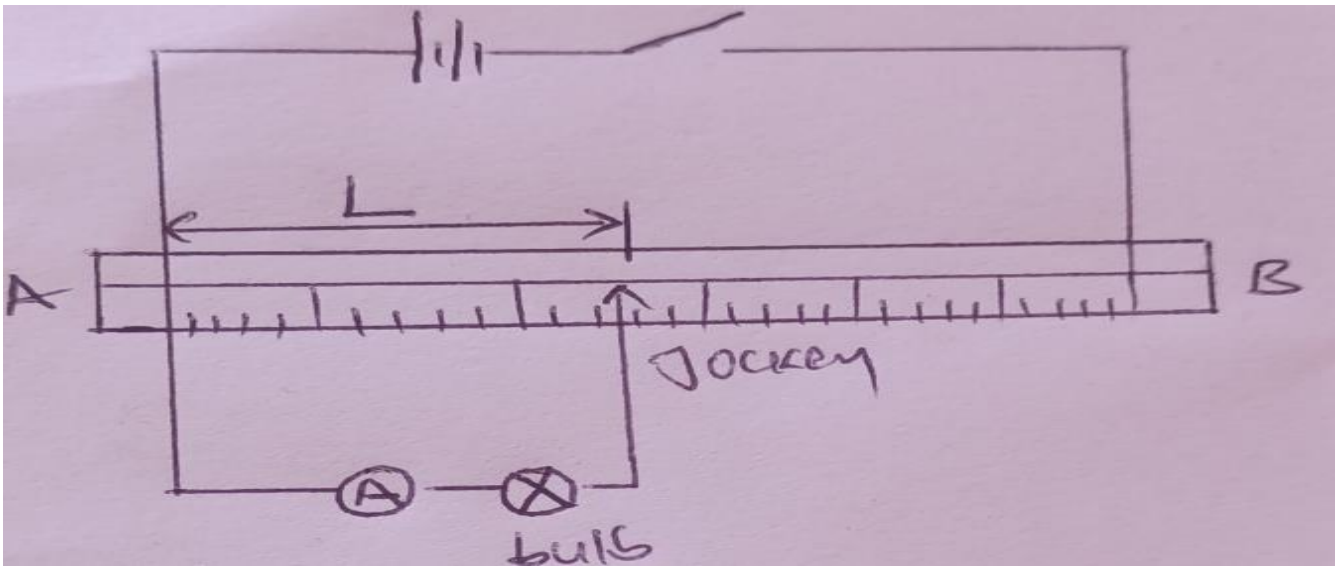
Connect the circuit as shown in the circuit diagram below.



f) Close the switch and record the ammeter readings I_1, I_2, and I_3 for the corresponding values of lengths

L_1= 30cm I1=……. (1mk)

L_2= 50cm I2=……. (1mk)

L_3= 70cm I3=……. (1mk)

g) Given that V = LS, where V is the Pd across the length AC of the wire, S is the slope of the graph in (d) above and L is the length of the resistance wire. Determine the potential difference V1, V2, V3 across the length AC of the wire for length LI, L2 and L3in (g) above.

L_1= 30cm V1 =……. (1mk)

…….

…….

L_2= 50cm V2 =……. (1mk)

…….

…….

L_3= 70cm V3 =……. (1mk)

……

……

h) Using the values V1, V2 and V3 and the corresponding currents I1, I2 and I3, calculate the corresponding resistance R1, R2 and R3.

L_1= 30cm R1=……. (1mk)

L_2= 50cm R2=……. (1mk)

L_3= 70cm R3=……. (1mk)

i) Compute the average value of the resistance R of the bulb. **(2mks)**

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THE END

FOR THE FOLLOWING;

- ✓ ONLINE TUITION
- ✓ REVISION NOTES
- ✓ SCHEMES OF WORK
- ✓ SETBOOKS VIDEOS
- ✓ TERMLY EXAMS
- ✓ QUICK REVISION KITS
- ✓ KCSE TOPICALS
- ✓ KCSE PREMOCKS
- ✓ TOP SCHOOLS PREMOCKS
- ✓ JOINT PREMOCKS
- ✓ KCSE MOCKS
- ✓ TOP SCHOOLS MOCKS
- ✓ JOINT MOCKS
- ✓ KCSE POSTMOCKS
- ✓ TOP SCHOOLS PREDICTIONS
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