KCSE POSTMOCKS

ALL SUBJECTS

SET 1

Dear Candidates,Attempt these Postmocks!

For Marking Schemes Call 0705525657

443/1

AGRICULTURE

PAPER 1 (THEORY)

SECTION A (30 MARKS)

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

1. In modern world today, agricultural practices involve both scientific and artistic skills to produce desired agricultural goods and services. State two scientific skills and one artistic skill. (1½ marks)

   ……
   ……
   ……

2. Name two examples of fibre crops. (1mark)

   ……
   ……

3. Differentiate between soil structure and soil texture. (2marks)

   ……
   ……
   ……

4. State three advantages of rotational grazing. (1½ marks)

   ……
   ……
   ……

5. Mention two main varieties of Napier grass. (1mark)

   ……
   ……

6. State two importance of soil mineral matter. (1mark)

   ……
   ……

7. State four advantages of using agro chemicals in crop production. (2marks)

   ……
   ……
   ……
   ……

8. List down four problems faced by a farmer who do not carry out staking on tomatoes. (2marks)

……
……
……
……

9. Mention four characteristics of Nitrogenous fertilizers. (2marks)
……
……
……
……

10. State four disadvantages of green manure. (2marks)
……
……
……
……

11. State four factors influencing soil erosion. (2marks)
……
……
……
……

12. Give two examples of fruit vegetables. (1mark)
……
……

13. State three problems of overdosing nitrogenous fertilizers in tomato production. (1½ marks)
……
……
……

14. State two importance of tissue culture in crop production. (2marks)
……
……

15. Give three reasons why sub soiling should be carried out. (1½ marks)
……
……
……

16. Mention four precautions taken when harvesting cotton. (2marks)
……
……
……
……

17. State four maintenance practices for the irrigation systems. (2marks)

……
……
……
……

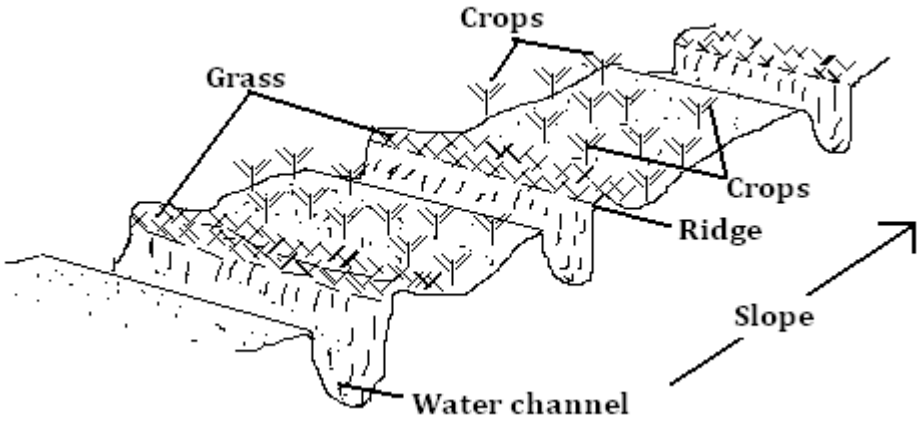
18. Mention four ways of improving labour productivity. (2marks)

……
……
……
……

SECTION B (20MARKS)

Answer ALL questions in this section in the spaces provided.

19. Below is a diagram illustrating a soil and water conservation method.



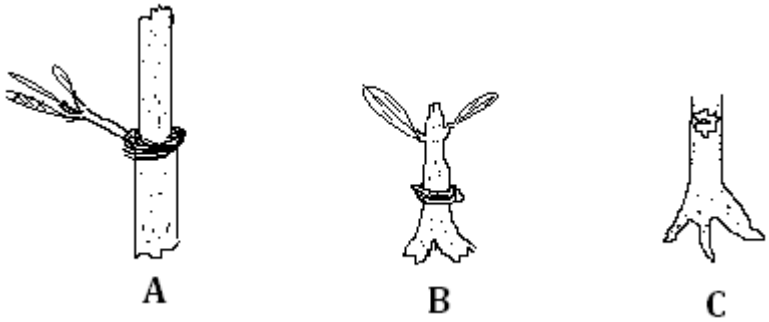
a) (i) Identify the method. (1mark)

……..

(ii) Explain how the method controls soils erosion. (2marks)

……
……

20. Study the illustration below and answer the questions that follow.



(a) Name the types of grafting labeled A, B and C above (3marks)

……
……
……

(b) Give tools/ materials used in propagation in method B or C (2marks)

……

……

(c) State two advantages of grafting instead of seed propagation. (2marks)

……

……

(d) List one crop propagated by method C (1mark)

……

……

21. The diagram labeled A and B below illustrate some arable weeds. Study the diagrams carefully and answer the questions that follow.

G H

a) Identify weeds G and H (1mark)

……

……

b) State one reason for controlling the weeds. (1mark)

……

……

c) In which two ways can a farmer make use of H. (1mark)

……

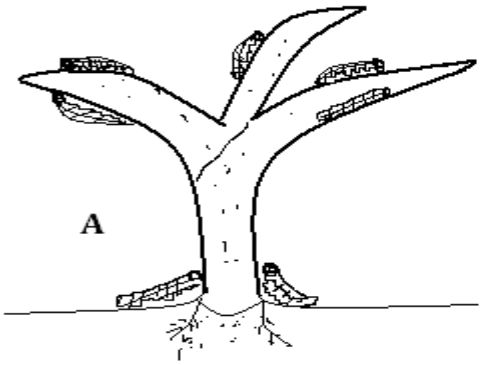
……

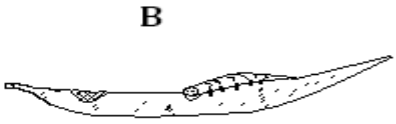
d) How does weed G interfere with the labour productivity? (1mark)

……

……

22. The diagram below labeled A and B illustrates some field pests. Study the diagrams carefully and answer the questions that follow.





a) Identify the pests A and B. (2marks)

……

……

b) State two damages caused to plants by pest B. (2marks)

……

……

c) Name one method of controlling pest A. (1mark)

……

SECTION C (40Marks)

Answer any two questions in this section in the spaces.

23. (a) Describe the field production of rice under the following sub-headings;-
    (i) Nursery practices (4marks)
    (ii) Field preparation (6marks)
    (iii) Transplanting (4marks)
    (iv) Field management (6marks)
    (b) Name six ways of maintaining soil fertility. (6marks)
24. (a) Describe five effects of fragmentation and sub division of land (10marks)
    (b) State five effects of weeds on pasture. (5marks)
    (c) Describe the uses of farm records. (5marks)
25. (a) Describe five farm measures of water pollution, prevention and control. (10marks)
    (b) Discuss the factors that influence spacing in crops. (10marks)

walimuepublishers@gmail.com

KCSE POSTMOCK

Kenya Certificate of Secondary Education

443/2

AGRICULTURE

PAPER 2 (THEORY)

SECTION A (30 Marks)

Answer all the questions in this section.

1. Mention four disadvantages of natural making as a method of breeding in dairy cattle (2marks)

……

……

……

……

2. State four advantages of keeping animals healthy. (2marks)

……

……

……

……

3. State four functions of vitamins in an animal's body. (2marks)

……

……

……

……

4. Name any two characteristics of good quality whole milk. (1mark)

……

……

5. State four reasons for culling a breeding boar. (2marks)

……

……

……

……

6. Mention four ways the central government has improved the lives of pastoral communities. (2marks)

……

……

……

……

7. Name three parts of a watering can. (1½ marks)

……

……

……

8. Why is strip cup very important equipment in dairy production? (1mark)
……
……
9. State two characteristics red Maasai sheep. (1mark)
……
……
10. (a) Give three methods of controlling cannibalism in a flock of layers in a deep litter. (1 ½ marks)
……
……
……
(b) List four factors that should be considered when grading eggs for marketing (2marks)
……
……
……
……
11. Name any four types of fences that would be constructed on a mixed farm. (2marks)
……
……
……
……
12. Under what conditions would a farmer prefer to use an ox-cart instead of a tractor drawn trailer? (1marks)
……
……
……
13. State three instances when a beekeeper may handle bees. (1½ marks)
……
……
……
14. Mention two benefits of pastoral – nomadism as a method of farming. (1mark)
……
……
……

15. State three qualities of good beef preferred by consumers (1½ mark)
……
……
……
16. Name two livestock diseases predisposed by sex. (1mark)

……

……

17. State one role of each of the following ingredients as used in preparation of artificial colostrums.

i. Castor oil (½ marks)

……..

ii. Cod liver oil (½ marks)

……

18. State two disadvantages of natural brooding (1mark)

……

……

19. State four reasons for breeding animals (2marks)

……

……

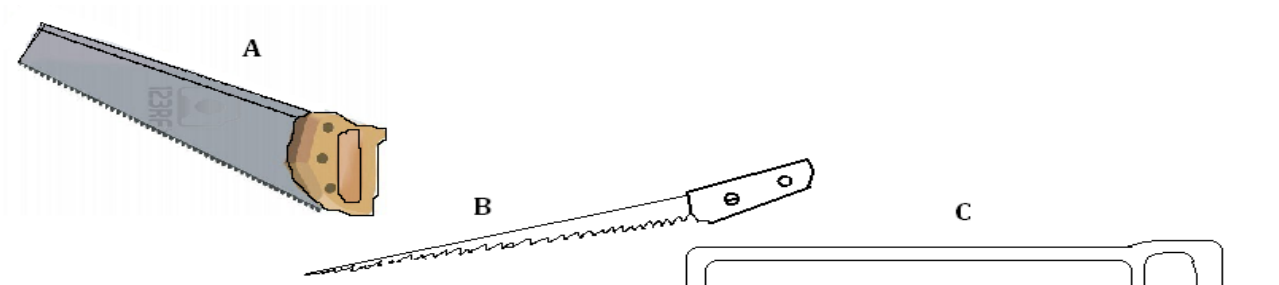
……

……

SECTION B (20marks)

Answer ALL the questions in this section.

20. The diagram A, B and C below represents different types of saws.



i) Identify the saws labeled A, B and C

A…….. (½ mark)

B …….. (½ marks)

C……. (½ marks)

ii) State one function of each of the three saws. (1½ marks)

A……

B……

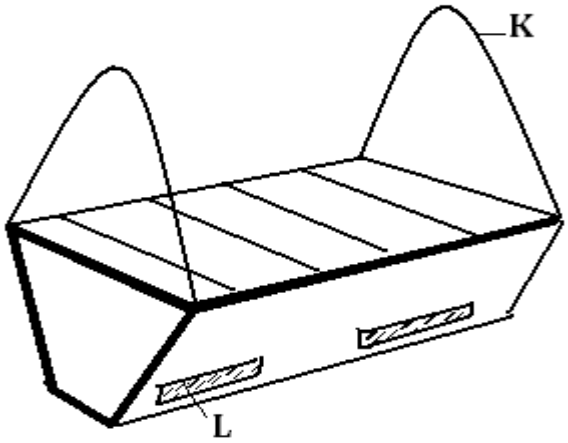
C……

iii) Give two maintenance practices which should be carried out on the saw labeled B. (1mark)

……

……

21. Study the diagram below carefully and answer the questions that follow.



a) Name the type of beehive illustrated above. (½ marks)

……..…

b) Name the parts labeled K and L

K …….. (½ mark)

L…….. (½ mark)

c) Name the structure used to separate the honey combs and brood combs in the hive. (1mark)

…….

d) State three advantages of using the structure named in (a) above (3marks)

……

……

……

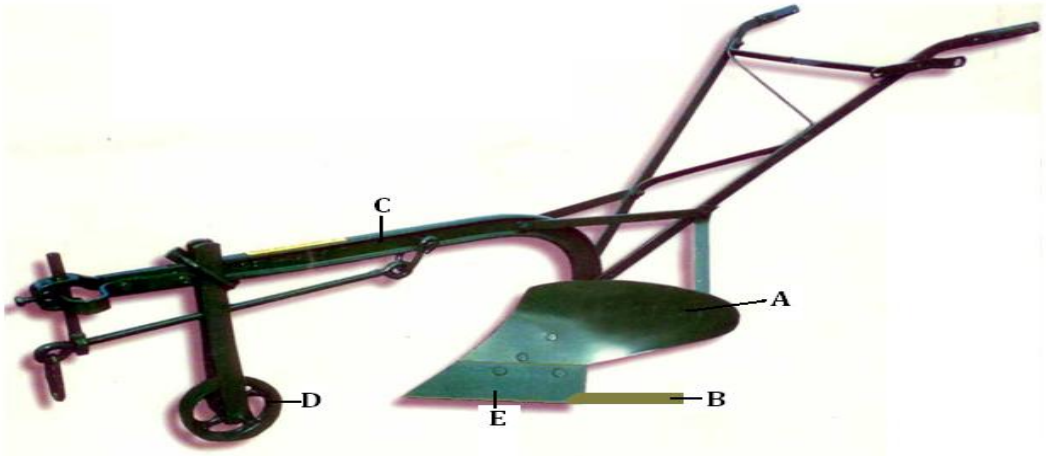
e) State one advantage of suspending the hive between posts using the parts labeled k (1mark)

……..

f) What is used for detaching honey combs during honey harvesting? (1mark)

……..

22. Below is a diagram of an ox-plough.



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

A ……………………………………………………………………………..…..………….

B ……………………………………………………..……………..………….

C ……………………………………………………….…………..…..………….

D …………………………………………………………………………….…….

(ii) State two maintenance practices that should be carried out in each of the parts labeled E and D. (4marks)

D.………………………………………………………………………………

E.………………………………………………………………………………

(iii) State one function of the parts labeled A and B (1mark)

A.………………………………………………………………………………

B.……………………………………………………………………………….

23. Study the diagram of eternal parasite below and answer the questions that follow.

(i) Identify the external parasite (½ mark)

…………………………………………………………………………………………

(ii) Name two cattle diseases transmitted by the above ectoparasite. (1mark)

…………………………………………………………………………………………

…………………………………………………………………………………………

Section C (40marks)

Answer any TWO questions from this section.

24. Describe the factors a farmer should consider during planning for construction of a piggery unit. (20marks)

25. (a) Describe the management of sheep starting from preparation for mating upto and including weaning of lambs. (16marks)

(b) Name four methods of identifying livestock (4marks)

26. (a) Explain five physical methods used to control ticks in a herd of cattle. (10marks)

(b) Explain the factors that may influence the daily water intake in an animal. (10marks)

walimuepublishers@gmail.com

KCSE POSTMOCK

Kenya Certificate of Secondary Education

565/1

BUSINESS STUDIES

PAPER 1

TIME: 2 HOURS

1. State four reasons why the number of firms in Kenya is more than the large scale firms. (4marks)
   (a) ……
   (b) ……
   (c) ……
   (d) ……
2. Identify the utility created when the following activities are carried out. (4marks)

Activity	**Utility**
(a) A farmer transports green maize to the market	
(b) A farmer keeps the harvested maize in the family granary	
(c) The maize grains is ground into flour in the posho mill.	
(d) The farmer sells the maize to the neighboring school.	

3. State the function of each of the following documents as used in home trade. (4marks)

   Document **Function**

   (a) Pro forma invoice
   (b) Advice note
   (c) Credit note
   (d) Order

4. Highlight four reasons why Mantrack limited has opted to offer after sales services to its customers (4marks)
   (a) ……
   (b) ……
   (c) ……
   (d) ……

5. The following information relates to Jomvu Kuu traders for the year ended 31st Mach 2011

Sales	Kshs. 400,000
Purchases	Kshs. 350,000
Opening stock	Kshs. 12,000
Return inwards	Kshs. 10,000
Carriage outwards	Kshs. 2,400

Carriage inwards	Kshs. 5,000
Closing stock	Kshs. 100,000

Prepare a trading account for Jomvy Kuu traders for the year ended 31st March 2011 (4marks)

……
……
……
……
……
……
……
……

6. Suggest four circumstances under which Madson Insurance Company may terminate an insurance contract with a client (4marks)
   (a) ……
   (b) ……
   (c) ……
   (d) ……

7. Identify four factors that may limit the use of containers in Kenya today. (4marks)
   (a) ……
   (b) ……
   (c) ……
   (d) ……

8. Mlolongo Traders started business one year ago with an investment of Kshs. 1,200,000. At the end of the year the capital was Kshs. 1,600,000 and the monthly drawings were Kshs. 20,000. Calculate the profit for the year (4marks)

……
……
……
……
……
……

9. Highlight four circumstances under which a business would prefer to use email instead of telephone call (4marks)
   (a) ……
   (b) ……
   (c) ……
   (d) ……

10. Highlight four circumstances under which a manufacturer of goods would sell them directly to the final consumer (4marks)
    (a) ……..
    (b) ……..
    (c) ……..
    (d) …….

11. The following information relates to Shah Traders for the month of January 2012.
    January 1 Opening balances – Cash Kshs. 25,000, Bank Kshs. 54,000
    4 Bought furniture worth Kshs. 8,000 by cheque
    10 Sold goods worth Kshs 6,000, Cash and Kshs. 2,000 on credit
    15 Paid a creditor Ramesh, for goods, Kshs. 3,000 by cheque and Kshs 2,000 in cash.
    Enter the above transactions in a two-column cash book and balance it off on 31st January 2012 (4marks)
    ……
    ……
    ……
    ……
    ……
    ……

12. State four ways in which advancement in technology has encouraged business growth (4marks)
    (a) …….
    (b) …….
    (c) …….
    (d) …….

13. Identify four ways in which the Kenyan government encouraged establishment of industries throughout the country. (4marks)
    (a) …….
    (b) ……..
    (c) …….
    (d) ……

14. For each of the following cases, name the motive for holding money. (4marks)

CASE	MOTIVE
(a) To meet daily transport expenses	
(b) To meet any unforeseen circumstances	
(c) To take an advantage of an anticipated fall in prices	
(d) To pay for daily food requirements	

15. List down four factors that may adversely affect the functioning of a warehouse (4marks)
    (a) ……..
    (b) ……..

(c) ……..……..…….
(d) ……..……

16. The balances below were extracted from the books of Komu Traders as at 31st December 2007.

	Shs.
Bank loans	1,300,000
Creditors	300,000
Debtors	900,000
Fixed assets	950,000
Bank	700,000
Cash	500,000
Stock	200,000
Prepaid wages	250,000
Rent income in advance	400,000

Prepare a balance sheet as at 31st December 2007

17. Highlight four contents that are contained in a company's articles of association (4marks)
(a) ……..…….
(b) ……..…….
(c) ……..…….
(d) ……..……

18. Outline four ways in which Kenyan consumers may protect themselves against exploitation by greedy business people. (4marks)
(a) …….
(b) …….
(c) …….
(d) …….

19. Masinga High School principal has just introduced an electronic filing system in the school. Suggest five ways in which the school will benefit from this move. (5marks)
(a) ……..
(b) …….
(c) …….
(d) …….
(e) …….

20. Mention four factors that may influence the level of Kenya's national income (4marks)
(a) …….
(b) …….
(c) …….

(d) ……

21. Identify the source document from where the information given below may be extracted. (4marks)

Information	Source document
(a) Purchases returns	
(b) Cash sales	
(c) Credit sales	
(d) Credit purchases	

22. Give four current changes that have been witnessed in the banking industry in Kenya. (4marks)
    (a) …….
    (b) …….
    (c) …….
    (d) …….

23. State the factors of production represented by each of the resources below (3marks)

Resource	**Factor of production**
(a) Land	
(b) Fertilizer	
(c) Farmer	

24. Outline four disadvantages of landscape office layout. (4marks)
    (a) ……
    (b) ……
    (c) ……
    (d) …….

25. Outline three functions of microfinance institutions in Kenya. (3marks)
    (a) ……..
    (b) ……
    (c) ……

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education.

565/2

BUSINESS STUDIES

PAPER 2

INSTRUCTIONS TO THE CANDIDATES

1. (a) Explain **five** ways in which commercial banks facilitate payment on behalf of their customers. (10 marks)
   (b) Describe the procedure of obtaining an insurance policy (10 marks)

2. (a) Explain **five** reasons why there is a need for Kenyan businesses to practice business ethics in their activities. (10 marks)
   (b) Explain **five** circumstances under which a seller may send a debit note to a buyer (10 marks)

3. (a) Explain five ways why the Nairobi stock exchange market has contributed to the growth of the Kenyan economy. (10 marks)
   (b) Using diagrams show the effects of the shifts of demand and supply curves on equilibrium price and quantity under the following situations:-
   i. Decrease in demand (5 marks)
   ii. Increase in supply (5 marks)

4. (a) Explain five circumstances under which a firm would be located near the market for its products. (10 marks)
   (b) Koki enterprises had the following balances in her books of accounts on November 1st 2011.

   Cash in hand **Kshs. 10,000.00**
   Cash at bank **Kshs. 150,000.00**

   The following transactions took place during the month

November	**3**	Cash purchases worth Kshs. 2,000.00
	6	Credit Sales to Kavuo Kshs. 2,000.00
	7	Bought office equipment paying by cheque Kshs. 40,000.00
	9	Paid electricity bill by cash Kshs. 500.00
	11	Received a cheque from Drogba a debtor Kshs. 2,000.00
	13	Received cash Kshs. 1,000.00 from Kyoa a debtor
	15	Drew, Kshs. 4,000 from bank for office use
	16	Koki took cash Kshs. 3,000.00 for her personal use.
	17	Made credit purchases Kshs. 2,500.00 from Nzuki.

   Required:
   Enter the above transactions in a two column cash book and balance it off. (10 marks)

5. (a) Discuss **five** circumstances under which monopolies may be created. (10 marks)
   (b) Explain **five** ways in which the central bank of Kenya has increased the lending capacity of commercial banks in Kenya. (10 marks)
6. (a) Explain **five** factor that may influence the management of Kithina Limited Company in deciding on an ideal office layout. (8 marks)
   (b) The following balances were extracted from the books of Kyome Leather Company for the year ended 31st December 2010

Carriage inwards	Kshs. **14,500.00**
Purchases	Kshs. **240,000.00**
Purchases returns	Kshs. **40,000.00**
Sales	Kshs. **355,000.00**
Stock 1/1/2009	Kshs. **45,000.00**
Sales returns	Kshs. **15,500.00**
Salaries	Kshs. **6,500.00**
Electricity	Kshs. **5,900.00**
Telephone	Kshs. **8,400.00**
Rent	Kshs. **8,500.00**
General Expenses	Kshs. **14,400.00**
Stock 31/12/2010	Kshs. **6,300.00**
Discount received	Kshs. **8,400.00**
Carriage outwards	Kshs. **10,200.00**
Discounts allowed	Kshs. **12,400.00**
Insurance	Kshs. **15,400.00**

Required:

Prepare the company's trading, profit and loss account for the year ended 31st December, 2010 (12 marks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education

231/1
BIOLOGY
PAPER 1
(THEORY)

1. State the function (s) of the following cell structures during cell division. (2marks)

(i) Centriole

……
……

(ii) Centomere

……
……

2.

State the function of co-factors in cell metabolism (1mark)

……
……

(a) Give one example of a metabolic co-factor (1mark)

……..

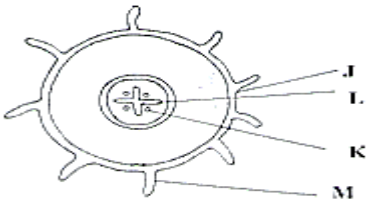
3. Industrial wastes may contain metabolic pollutants. State how such pollutants may indirectly reach and accumulate in the human body if the wastes were dumped into rivers. (4marks)

……
……
……
……

4. In an investigation the pancreatic duct of a mammal was blocked. It was found that the blood sugar regulation remained normal while, food digestion was impaired. Explain these observations. (2marks)

……
……
……
……

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



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

……

……

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

……

……

……

6. State two structural differences between ribonucleic acid (RNA) and deoxyribonucleic acid.(2marks)

RNA	DNA
(i)	
(ii)	

7.

(a) Explain why glucose does not appear in urine of a healthy person even though it is filtered in the Bowman's capsule of a mammal (2marks)

……

……

(b) In a certain person, glucose appeared in urine. State the disease the person was suffering from. (1mark)

……

8. State the stage in cell division in which the following events occurs:-

(i) Replication of the genetic material (1mark)

……

(ii) Exchange of genetic material (1mark)

……

9. In a blood test, a few drops of anti-serum were added to two samples of blood. It was noted that agglutination occurred. What were the possible blood groups of the two blood samples? (2marks)

……

……

10. Explain what would happen when a marine amoeba is transferred to fresh water environment. (2marks)

……

……

11. A small amount of chemical M was put on one side of maize celeoptiles. After some days, it was noted that the celeoptiles curved away from the side to which the chemical was applied.

(a) Suggest the possible identity of chemical substance M (1mark)

……

(b) Explain how this chemical might have caused the celeoptiles to curve. (2mark)

……

……

……
……

12. Name the division of the Kingdom plantae with the following spore producing bodies. (2marks)

(i) Sori

……

(ii) Sporangium

……

13. Account for the loss in dry weight of cotyledons in a germinating bean seed. (3marks)

……
……
……

14. (a) In which part of the human body is the cell body of the motor neurone found. (1mark)

……

(b) Below are two features which make a neurone a specialized cell. State their roles. (2marks)

i. Axon

……

ii. Dendntes

……

15.

(a) What is a natural selection? (1mark)

……
……

(b) Distinguish between convergent and divergent evolution. (1mark)

……
……
……
……

16.

(a) Explain how the following parts of a mammalian reproductive system are adapted to their functions. (2marks)

i. Testis

……
……

ii. Uterus

……
……

(b) Explain why removal of the ovary after four months of pregnancy does not terminate pregnancy. (2marks)

……
……
……
……

17. Active yeast cells were added to a dilute sugar solution in a container. The mixture was kept in a warm room. After a few hours bubbles of gas were observed escaping from the mixture.

(a) Write an equation to represent the chemical reaction above. (1mark)

……
……

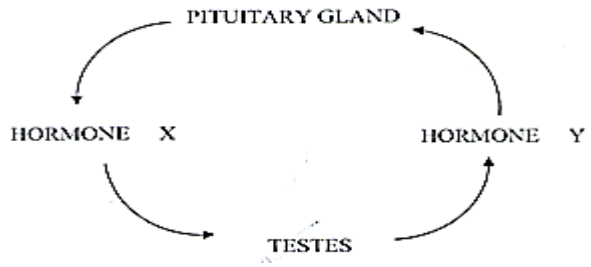
(b) What is the economic importance of this type of chemical reaction in industry? (1mark)

……
……

18. What is the significance of cristae found in mitochondria? (2marks)

……
……

19. The diagram below represents a simple endocrine feedback mechanism in a human male



(a) Name the hormone labeled X (1mark)

……

(b) State two differences that may be observed between a normal male and one who is incapable of producing hormone labeled Y (2marks)

……
……
……
……

20.

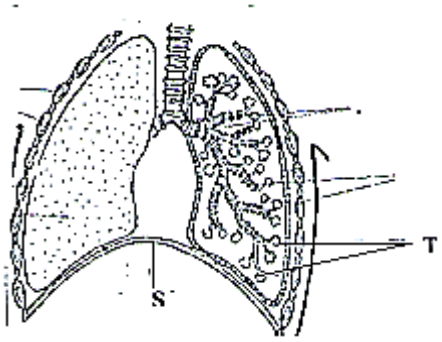
(a) What is meant by double fertilization in flowering plants? (2marks)

……
……

(b) State two advantages of cross pollination in a flowering plant. (2marks)

……
……
……

21. The diagram below shows part of a mammalian respiratory system.



(a) Explain **two** ways in which the part labeled T is adapted to its functions (2marks)

……
……
……
……

(b) How does the part labeled S facilitates breathing in? (2marks)

……
……
……

22. Define the term alleles (1mark)

……
……

23.

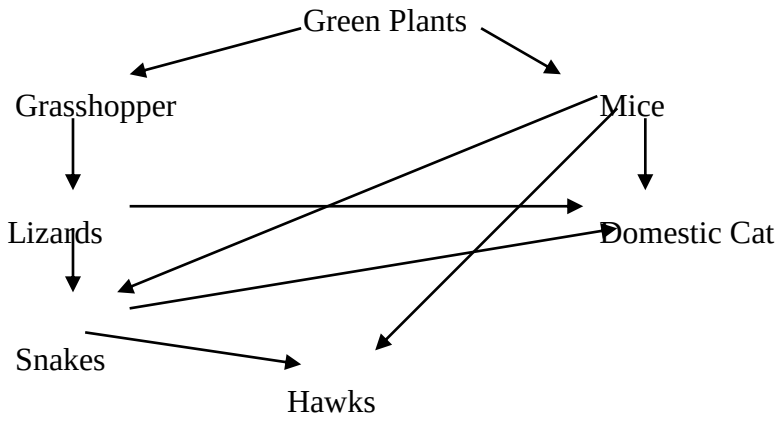
(a) Explain why the body temperature of a healthy human being must raise upto 39^{o}C on humid day. (2marks)

……
……
……

(b) In an experiment, a piece of brain was removed from a rat. It was found that the rat had large fluctuations of body temperature. Suggest the part of the brain that had been removed.(1mark)

……

24. The chart below shows a feeding relationship in a certain ecosystem.



(a) Construct two food chains ending with a tertiary consumer in each case. (2marks)

……

……

……

(b) Suggest three ways in which the ecosystem would be affected if there was prolonged drought. (3marks)

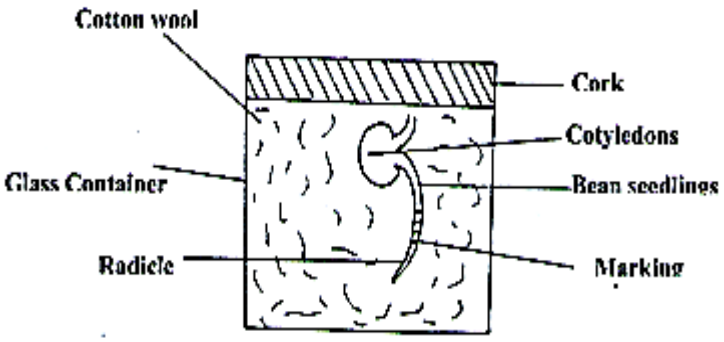
……

……

……

……

25. A student set up an experiment as shown in the diagram below.



(a)

(i) What was being investigated in the experiment? (1mark)

……

……

(ii) Draw a diagram to indicate the expected results of the experiment after three days. (1mark)

(iii)Why was it necessary to have wet cotton wool in the container? (1mark)

……

……

(b) What is the role of the following in a germinating seed?

(i) Oxygen (1mark)

……
……

(ii) Cotyledons (1mark)
……
……

26. Give a reason why it is only mutations in genes of gametes that influence evolution. (1mark)
……
……

27. A person was able to read a book clearly at arm's length, but not at normal distance.

(a) State the eye defect the person suffered from. (1mark)
……

(b) Why was he unable to read the book clearly at normal distance? (1mark)
……
……

(c) How can the defect be corrected. (1mark)
……
……
……

28. Some form three students took a germinating maize grain and placed it in a starch paste in a Petri dish and put the Petri dish in a water bath maintained at 30^0C. After 48hours the starch paste was irrigated with iodine solution. The area around the maize grain changed to the color of iodine solution while the rest turned blue-black.

(a) Account for the observation (2marks)
……
……
……
……

(b) Why was the Petri dish put in a water bath maintained at 30^0C (1mark)
……
……

29. State two functions of muscles found in the alimentary canal of mammals. (2marks)
……
……
……

30. Explain two ways in which xylem are adapted to their function. (2marks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education

BIOLOGY

PAPER 2

(THEORY)

SECTION A
Answer all questions in the spaces provided.

1. In a family with four children the father had blood group A while the mother had blood group B. One of the children had blood group O.

(a) i. What were the genotypes of the parents. 1mark

Mother

……

Father

……

ii. What was the genotypes of the child with blood group O 1mark

……

(b) Work out the genotype of the other children 4marks

……

……

……

……

……

……

……

……

(c) Which child can receive blood from any member of the family? (1 mark)

……

(d) State the percentages of children who can donate blood to all blood groups (1mark)

……

2.

(a) (i) What are vestigial structures? 1mark

……

……

(i) Give two examples of vestigial structures in man. 2marks

……

……

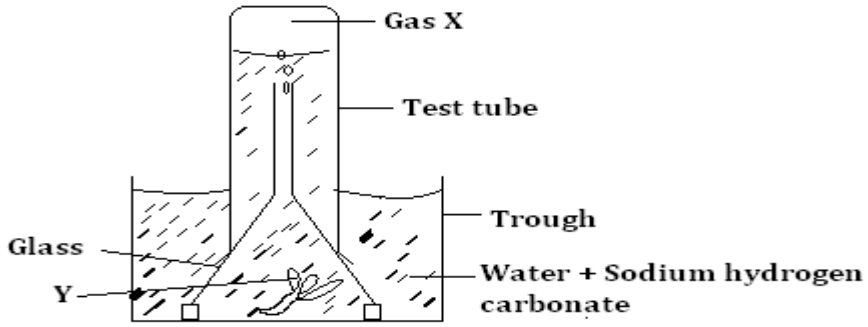
(b) (i) Explain the occurrence of plasmodium resistant to chloroquin treatment. 4marks

……
……
……
……

(ii) Name the disease caused by plasmodium in human beings. 1mark

……..

3. An experiment was set up to investigate a certain process as shown in the diagram below.



The set up was left in bright sunlight for 4 hours.

(a) State the aim of the experiment. 1mark

……..

(b) Name X and Y 2marks

X

……..

Y

……..

(c) Other than sunlight name three factors that would affect the experiment. 3marks

……
……
……

(d) State how the identity of X would be confirmed. 1mark

……
……

(e) Explain why only submerged water plants was used in this experiment. 1mark

……
……

4.

(a) What is active transport? 1mark

……
……

(b) State three factors that increase the rate of active transport. 3marks

……
……
……
……

(c) Give four roles of active transport in living organisms 4marks

……
……
……
……
……

5. (a) (i) Name the blood vessel that connect arteries to veins. 1mark

……..

(ii) Explain three ways in which the vessels named in (a) (i) above are adapted to carry their function. 3marks

……
……
……
……

(b) Name blood vessel with the highest concentration of

(i) Glucose

……

(ii) Carbon (IV) oxide

……

(c) (i) State the function of cardiac muscles. 1mark

……
……

(ii) What is single circulation? 1mark

……
……

SECTION B (40 MARKS)

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

6. In an ecological study, a grass hopper population and that of crows was estimated in a certain grassland area over a period of one year. The results are as shown in the table below.

Month	J	F	M	A	M	J	J	A	S	O	N	D
Number of adult grasshopper $x10^2$	90	20	11	25	2500	1652	120	15	10	35	192	456
Number of crows	4	2	0	1	8	22	7	2	1	1	5	15
Amount of rainfall	20	0	55	350	520	350	12	10	25	190	256	350

(i) What is the relationship between the rainfall and grasshopper population? 1mark

……
……

(ii) (a) Account for the relationship stated in (i) above. 3marks

……
……
……

……

……..……..

(b) Explain the relationship between the grasshopper population and that of crows 3marks

……

……

……

……

……..……

(c) If the data was used in the construction of pyramid of numbers, what would be the trophic level of; 3marks

i. Grass hopper

……

ii. Crows

……

iii. The grass in the study area

……

(d) If the area studied was one square kilometer, state;

i. One method that could have been used to estimate the crow population. 1mark

……

ii. One method that could have been used to estimate the grasshopper population. 1mark

……

(e) Suggest what would happen if a predator for grasshoppers entered the study area. 2marks

……

……

(f) What is meant by the term carrying capacity? 1mark

……

……

(g) Why would the carrying capacity of wild animals in woodland grassland be higher than that of cattle? 2 marks

……

……

(h) What is an ecosystem? 3marks

……

……

……

7. Describe how mammalian heart is adapted to its function. 20marks
8. (a) Describe how urea is formed in the liver cells from excess amino acid. 5marks
   (b) Discuss economic importance of five plant excretory products. 10marks
   (c) Explain how plants remove waste products from their body. 5 mark

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education
313/1
CHRISTIAN RELIGIOUS EDUCATION
PAPER 1

1. (a) Describe the first creation story as recorded in Genesis 1-2:49. (8marks)

   (b) In which **six** ways was man created in the image of God (6 **marks**)

   (c) What do Christian learn from the Biblical stories of creation? (5 **marks**)

2. (a) Describe the making of the Sinai Covenant between the Israelites and God (7 **marks**)

   (b) State **eight** ways in which God cared for the Israelites in the wilderness (8 **marks**)
   (c) Give 5 ways in which errant members are rehabilitated in churches today (5 **marks**)

3. (a) Explain the reasons against kinship in Israel (7 **marks**)

   (b) Outline the factors that led to the failure of David's successors. (7 **marks**)

   (c) How has corruption affected the Kenyan society today? (8 marks)

4. (a) Outline **five** characteristics of true prophets in the old Testament (5 **marks**)

   (b) Identify the occasions when Nehemiah prayed. (5 **marks**)

   (c) Explain ways in which the gift of prophecy is used in churches today. (7 marks)

5. (a) List any **five** factors that have undermined the role of religious specialists today. (5marks)

   (b) Explain state any **five** ways of worshipping God in traditional African society. (5marks)

   (c) Explain any **five**importance of children in the traditional African society. (10marks)

6. (a) Give **eight** reasons why disputes over ownership of property was rare in Traditional African Community. (8marks)

   (b) State how wealth was acquired in Traditional African Community. (7marks)

   (c) State **five** factors contributing to harmony and mutual responsibility in African Communities (5marks

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education

313/2

CHRISTIAN RELIGIOUS EDUCATION

PAPER 2

1. (a) Outline **six** prophecies about Jesus according to prophet Nathan. (6marks)

   (b) Give reasons why Jesus was baptized. (6marks)

   (c) State **six** ways in which Christians prepare themselves for God's Kingdom. (6marks)

2. (a) Describe the call of the first disciples of Jesus according to Luke 5: 1-11 (8marks)

   (b) What is Jesus teaching on true discipleship? (8marks)

   (c) Give **five** ways in which the church prepares people to do the work of God (5marks)

3. (a) Describe the healing of the crippled woman on the Sabbath Luke 13: 10 – 17 (8 **marks**)

   (b) State six reasons why Jesus used miracles as a teaching method (6 **marks**)

   (c) What problem do church leaders encounter in evangelism (6 **marks**)

4. (a) Narrate the parable of the unjust judge and the widow. *(Luke 18:1-8)* (5marks)

   (b) Explain the teachings of Jesus on prayer (8marks)

   (c) Why do some Christians find it hard to pray? (7marks)

5. (a) Describe the triumphant entry of Jesus into Jerusalem (Lk 19:29-40) (7marks)

   (b) Explain eight reasons why Jesus conflicted with the Jewish leaders. (8marks)

   (c) Give reasons why people are not willing to donate blood (5marks)

6. (a) Outline Peter's message about Jesus on the day of Pentecost Acts 2:14-41. (7marks)

   (b) Identify **six** causes of disunity in the church at Corinth. (6marks)

   (c) Give **seven** reasons why Christians should be in unity today. (7marks)

walimuepublishers@gmail.com

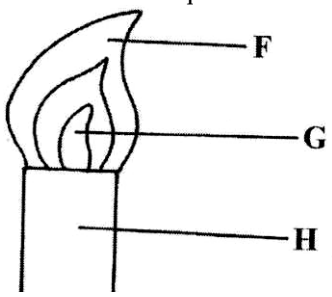
KCSE POSTMOCKS

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

CHEMISTRY

PAPER 1

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



Name the parts labelled **F** and **G**. (1mk)

F:……

G:…….

2. The table below gives information on four elements represented by K, L, M and N. Study it and answer the questions that follow. The letters do not represent the actual symbols of the elements.

Element	Electron arrangement	Atomic radius	Ionic radius
K	2, 8, 2	0.136	0.065
L	2, 8, 7	0.099	0.181
M	2, 8, 8, 1	0.203	0.133
N	2, 8, 8, 2	0.174	0.099

(a) Which **<u>two</u>** elements have similar chemical properties? Explain. (2mks)

……

……

……

……

…….

3. Describe how a solid sample of Lead (II) Chloride can be prepared using the following reagents:
Dilute Nitric Acid, Dilute Hydrochloric Acid and Lead Carbonate. (3mks)

……

……

……

……

……

……

4. $Na^+_{(g)} + Cl^-_{(g)} \longrightarrow NaCl_{(s)}$ $\Delta H_1 = -781KJmol^{-1}$

$NaCl_{(s)} \xrightarrow{H_2O_{(l)}} Na^+_{(aq)} + Cl^-_{(aq)}$ $\Delta H_2 = +7KJmol^{-1}$

(a) What is the name of ΔH_1?

(1mk)

……

…..

(b) Calculate the heat change for the process:

(2mks)

$Na^+_{(aq)} + Cl^-_{(aq)} \xrightarrow{H_2O_{(l)}} Na^+_{(aq)} + Cl^-_{(aq)}$

5. The table below gives the solubility of potassium bromide and potassium sulphate at 0^0C and 40^0C.

Substance	Solubility g/100g H_2O at	
	0^0C	40^0C
Potassium bromide	55	75
Potassium sulphate	10	12

When an aqueous mixture containing 60g of potassium bromide and 7g potassium sulphate in 100g of water at 80^0C was cooled to 0^0C, some crystals were formed.

(a) Identify the crystals.

(1mk)

……

..

(b) Determine the mass of the crystals.

(1mk)

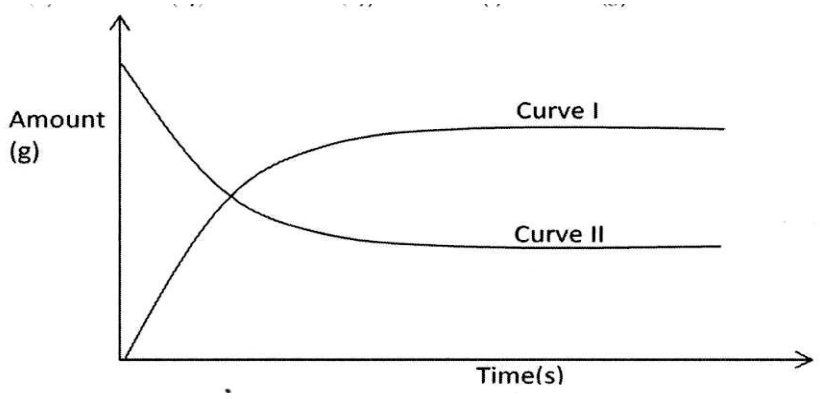
……

……

……

6. The graph below shows the amount of calcium carbonate and calcium chloride varying with time in the reaction.

$CaCO_{3(s)} + 2HCl_{(aq)} \longrightarrow CaCl_{2(aq)} + H_2O + CO_{2(g)}$



(a) Which curve shows the amount of calcium chloride varying with time? (1mk)

……

….

(b) Explain why the two curves become horizontal after a given period of time. (1mk)

……

……

……

(c) Sketch on the graph, how curve II would appear if the experiment was repeated using a more dilute hydrochloric acid solution. (1mk)

7. $200cm^3$ of Nitrogen (I) Oxide (N_2O) pass through a porous plug in 2 minute 15 seconds. How long will it take the same volume of Sulphur (IV) Oxide (SO_2) gas to diffuse through the same plug under the same conditions? (N = 14, O = 16, S = 32) (3mks)

……

……

……

……

……

8. An organic compound contains carbon and hydrogen only. When this compound was completely burnt in excess air, it gave 9.6g of Carbon (IV) Oxide and 4.9g of water vapour. The molecular mass of the hydrocarbon is 58. Determine the molecular formula. (C = 12, O = 16, H = 1) (3mks)

……

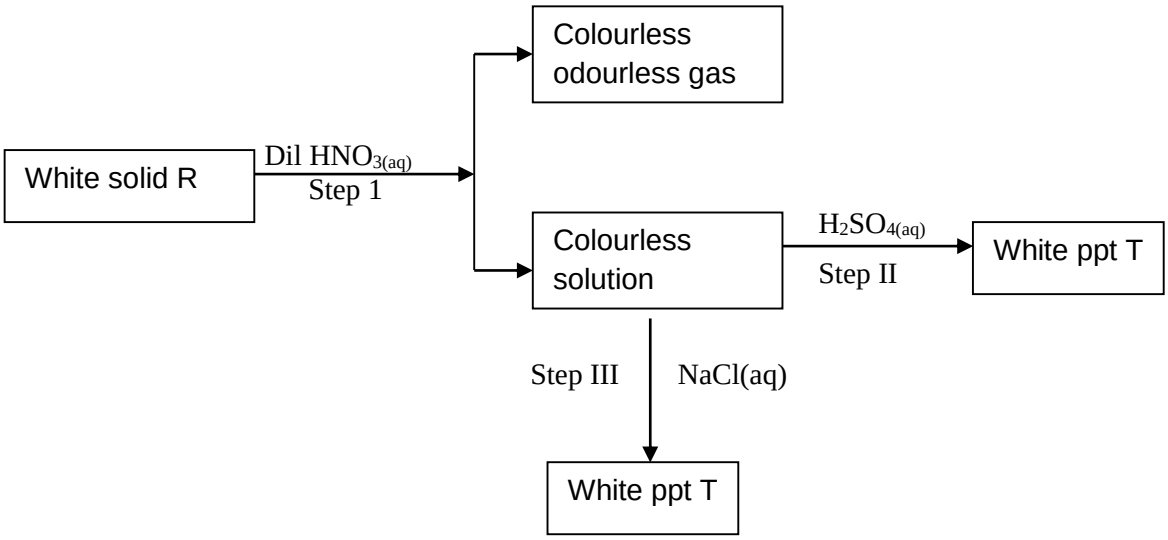
……

……

……

……

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



(a) Identify solid R. (1mk)

……

….

(b) Write a balanced equation for step II and ionic equation for step III.

Step II ……

(1mk)

Step III ……...

(1mk)

10. In an experiment to study properties of carbon, a small amount of charcoal is placed in a boiling tube. 5.0cm^3 of concentrated nitric acid is added. The mixture is then heated.

(a) What observations are made? (1mk)

……

……

……

(b) Write an equation for the reaction that took place in the boiling tube. (1mk)

……

…

(c) What property of carbon is shown in this reaction?

(1mk)

……

….

11. Both diamond and graphite have giant atomic structures. Explain why diamond is hard while graphite is soft.

(2mks)

……

……

12. (a) Define the term oxidation state. (1mk)

……

……

……

……

(b) Calculate the oxidation states of chromium and manganese in the following ions. (2mks)

(i) Chromium in $Cr_2O_7^{2-}$

……

……

……

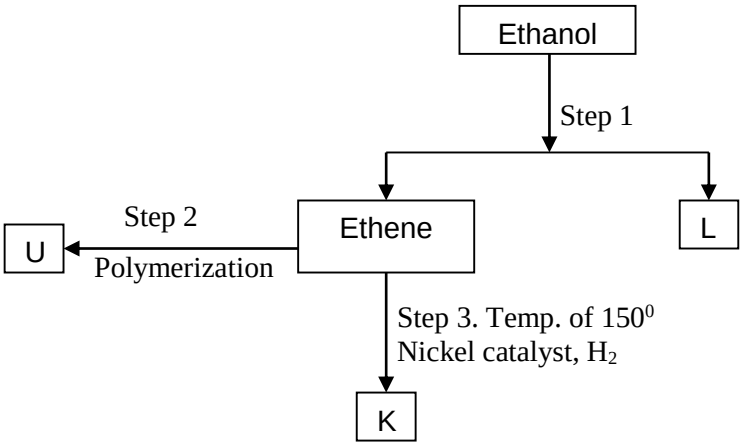
……

(ii) Manganese in MnO_4^-

……

……

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



(a) Identify substances:

K:……

(½mk)

U:……

(½mk)

L:……

(½mk)

(b) State the conditions for the reaction in step 1 to occur. (2mks)

……

……

……

……

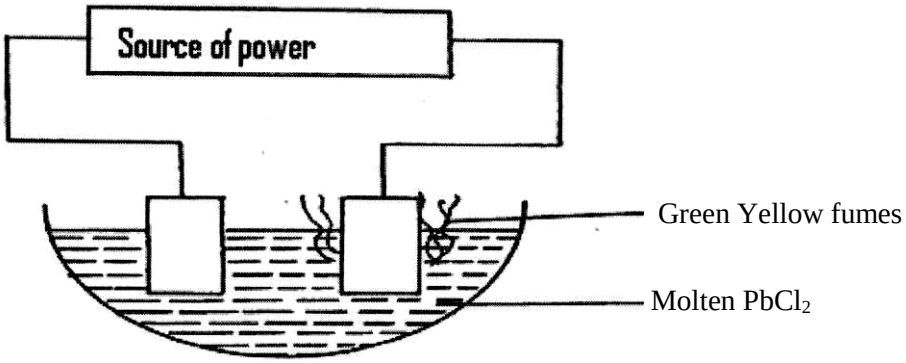
(c) Give **one** disadvantage of continued use of substances such as U. (½mk)

……

……

……

14. Use the set up below to answer the questions that follow.



(a) On the diagram, label the cathode.

(1mk)

(b) Write the equation for the reaction on the cathode.

(1mk)

……

…..

15. Use the bond energy value given below for the question that follows.

Bond	Bond energy ($kJmol^{-1}$)
H – H	432
C = C	610
C – C	346
C – H	413

Determine the enthalpy change for the conversion of butene to butane by hydrogen. (3mks)

……

……

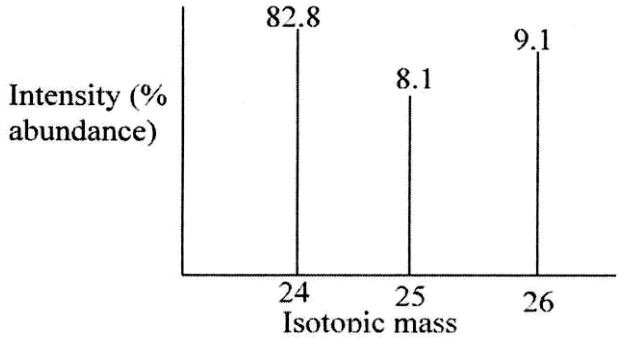
……

……

……

……..

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



Calculate the relative atomic mass of X.

(2mks)

……

……

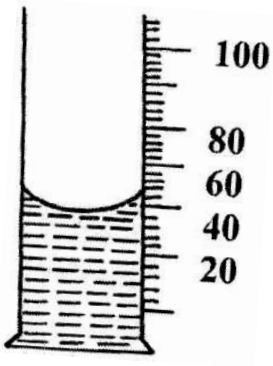
……

……

……

……

17. In an experiment, concentrated sulphuric (VI) acid was put in a beaker and exposed to air for one week as shown below.



(i) What observation was made after one week? Explain. (2mks)

……

……

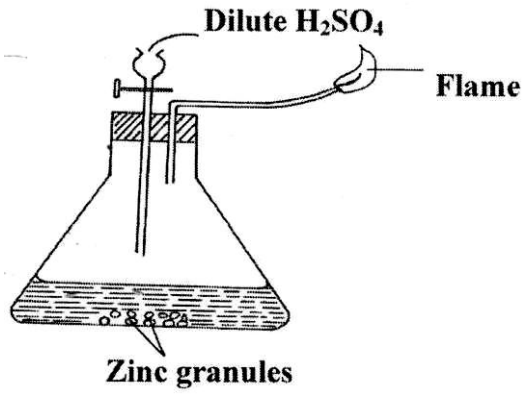
……

(ii) What property of sulphuric (VI) acid was being investigated in the experiment? (1mk)

……

……

18. Below is a set-up of apparatus used to prepare hydrogen gas in the laboratory. Study it and answer the questions that follow.



(a) Write a chemical equation for the two reactions taking place in he above set-up. (2mks)

……

……

(b) State the chemical test for hydrogen gas.

(1mk)

……

19. State **three** reasons why air is considered to be a mixture but not a compound. (3mks)

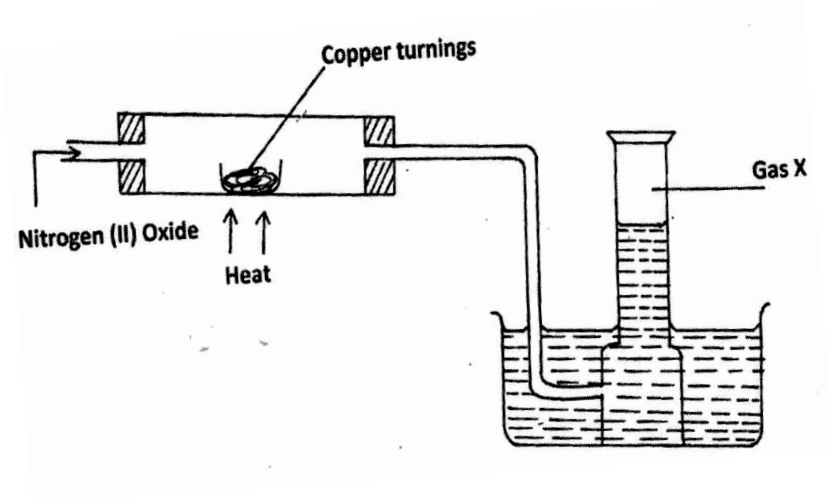
……

……

……

……

20. Study the set up below and answer the questions that follow.



(a) Identify gas X.

(1mk)

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

……

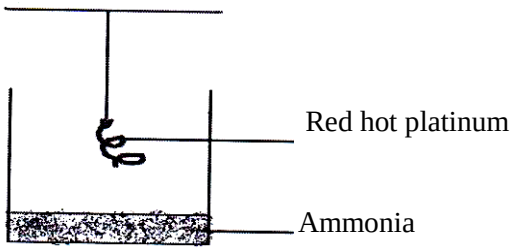
……

(c) Write equation for the reaction in combustion tube. (1mk)

……

……

21. The set-up below shows the catalytic oxidation of ammonia in the laboratory.



(a) State and explain the observation made. (2mks)

……

……

……

……

(b) Write a chemical equation for the first reaction taking place in the beaker.
(1mk)

……

……

……..

22. When sulphur is heated in a boiling tube in absence of air, the yellow crystals melts into golden yellow mobile liquid at 113^0C. The liquid changes at 180^0C into a dark brown very viscous liquid. More heating to about 400^0C, produces a brownless viscous liquid.

(a) Draw the molecular structure of sulphur in the yellow crystals. (1mk)

(b) Explain why the molten liquid becomes viscous. (1mk)

……

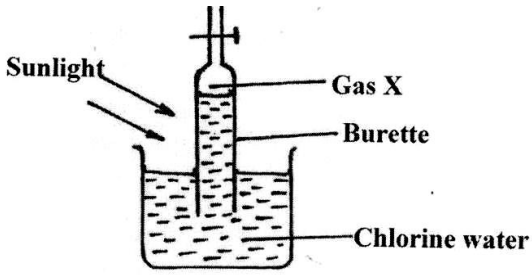
……

……

(c) If the brown liquid at 400^0C is cooled rapidly by pouring it into cold water, which form of sulphur is produced?
(1mk)

……

23. An experiment was set up using chlorine water as shown below.



(i) Identify gas X. (1mk)

……

…..

(ii) Write an equation for the production of gas X. (2mks)

……

……

…….

24. The 1st, 2nd and 3rd ionization energies in KJ/Mol of elements G and R are given below.

Element	**1st I.E**	**2nd I.E**	**3rd I.E**
G	520	7,300	9,500
R	420	3,100	4,800

(i) Define the term 1st ionization energy.

(1mk)

……

……

……

(ii) Apart from the decrease in energy levels, explain the big difference between the 1st and 2nd ionization energies. (1mk)

……

……

……

(iii) Calculate the amount of energy for the process:

(1mk)

$R_{(g)} \longrightarrow R^{3+}_{(g)} + 3e^-$

25. A gaseous compound consists of 86% carbon and 14% hydrogen by mass. At s.t.p. 3.2dm^3 of the compound had a mass of 6g. Calculate its molecular formula. (1 mole of a gas at s.t.p. = 22.4dm^3) (3mks)

……

……

……

……

……

……

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

Solution	J	K	L	M	N
pH	6	13	2	10	7

(a) Which solution is likely to be:

(i) Potassium hydroxide

(1mk)

……

…..

(ii) Lemon juice

(1mk)

……

…..

(b) Explain why a solution of hydrogen chloride gas in methyl benzene was identified as N. (1mk)

……

……

……

27. Using dots (•) and crosses (x) to represent electrons, show bonding in the compound formed when the following elements reacts. (N = 14, H = 1).

Nitrogen and Hydrogen.

(1mk)

28. Some salts may be classified as double salts or basic salts. Trona with the formula $Na_2CO_3.NaHCO_3$ is an example of a double salt. An example of a basic salt is basic magnesium carbonate with formula $MgCO_3.Mg(OH)_2$.

(a) What is meant by a double salt?

(1mk)

……

……

……

(b) Write equations of reactions that occur when dilute hydrochloric acid is reacted with: (2mks)

(i) Trona

……

……

…..

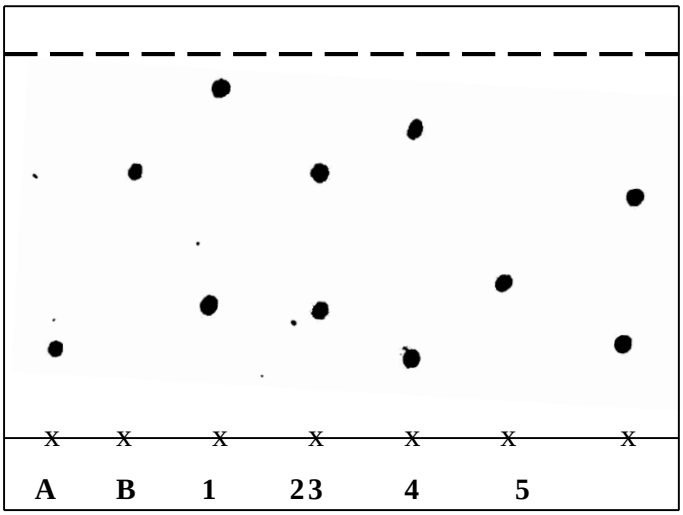
(ii) Basic magnesium carbonate.

……

……

……

29. During Olympics, urine sample of five short distance runners were taken and tested for the presence of two illegal steroids by paper chromatography. Methanol was used as the solvent. A chromatogram from the test appeared as shown below. Study the chromatogram and answer the questions that follow.



KEY

SPOT A – STEROID A

SPOT B – STEROID B

SPOT 1 – ATHLETE 1

SPOT 2 – ATHLETE 2

SPOT 3 – ATHLETE 3

SPOT 4 – ATHLETE 4

(a) Which of the two steroids is most likely to be more soluble in methanol? Give a reason. (1mk)

……

(b) Identify the athletes that tested positive for the illegal steroids. (2mks)

walimuepublishers@gmail.com

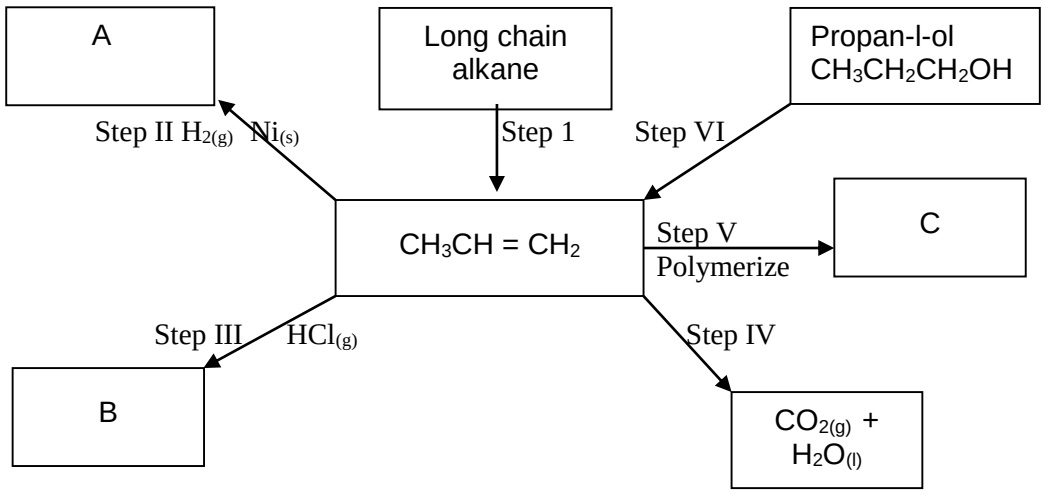
KCSE POSTMOCKS

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

CHEMISTRY

PAPER 2

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



(i) Name the process taking place in step (I).

(1mk)

……

…..

(ii) Describe chemical test that can be carried out to show the identity of organic compound A. (2mks)

……

…..

……

…..

Give the name of the following:

(2mks)

I. A:……

……

II. B:……

……

(iii) Give the structural formulae of substance C. (1mk)

……

……

(iv) Name the type of reaction that occurs in:

I. Step IV (1mk)

……

II. Step

VI:……..

(v) Give the reagent and the condition necessary for step VI.

(1mk)

Reagent:……

Condition:……

(b) Give the systematic names of the following compounds:

I. $CH_2CHCHCH_2CH_3$ (1mk)

……

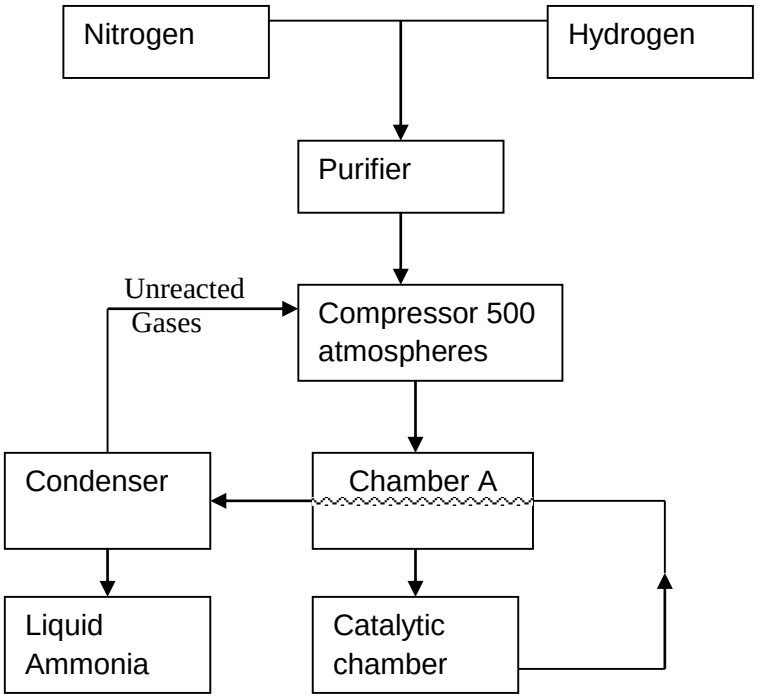
……

II. CH C C H_3

(1mk)

……

2. The flow chart below shows the Haber process in the large scale manufacture of Ammonia gas. Use it to answer the questions that follow.



(a) Describe how nitrogen is obtained from air on a large scale. (3mks)

……

……

……

…..……

……..……

(b) (i) Name **one** source of hydrogen gas used as a raw material in the above process. (1mk)

……

…

(ii) Name chamber A.

(1mk)

……

…..

(iii) Write an equation for the reaction taking place in the catalytic chamber. (1mk)

……

…..

(iv) In the Haber process optimum temperature of 500^0C and 200 atmospheres of pressure are used to get optimum yield of Ammonia. Why can't lower temperatures and higher pressure be used? (2mks)

……

…..……

……..……

……..……

(c) Give **two** reasons why finely divided iron is the commonly used catalyst. (1mk)

……

……..……

……..

(d) State and explain the observation made when dry ammonia gas is passed over heated copper (II) Oxide in a combustion tube. (2mks)

……

……

…….

(e) Give **two** uses of ammonia gas. (1mk)

……

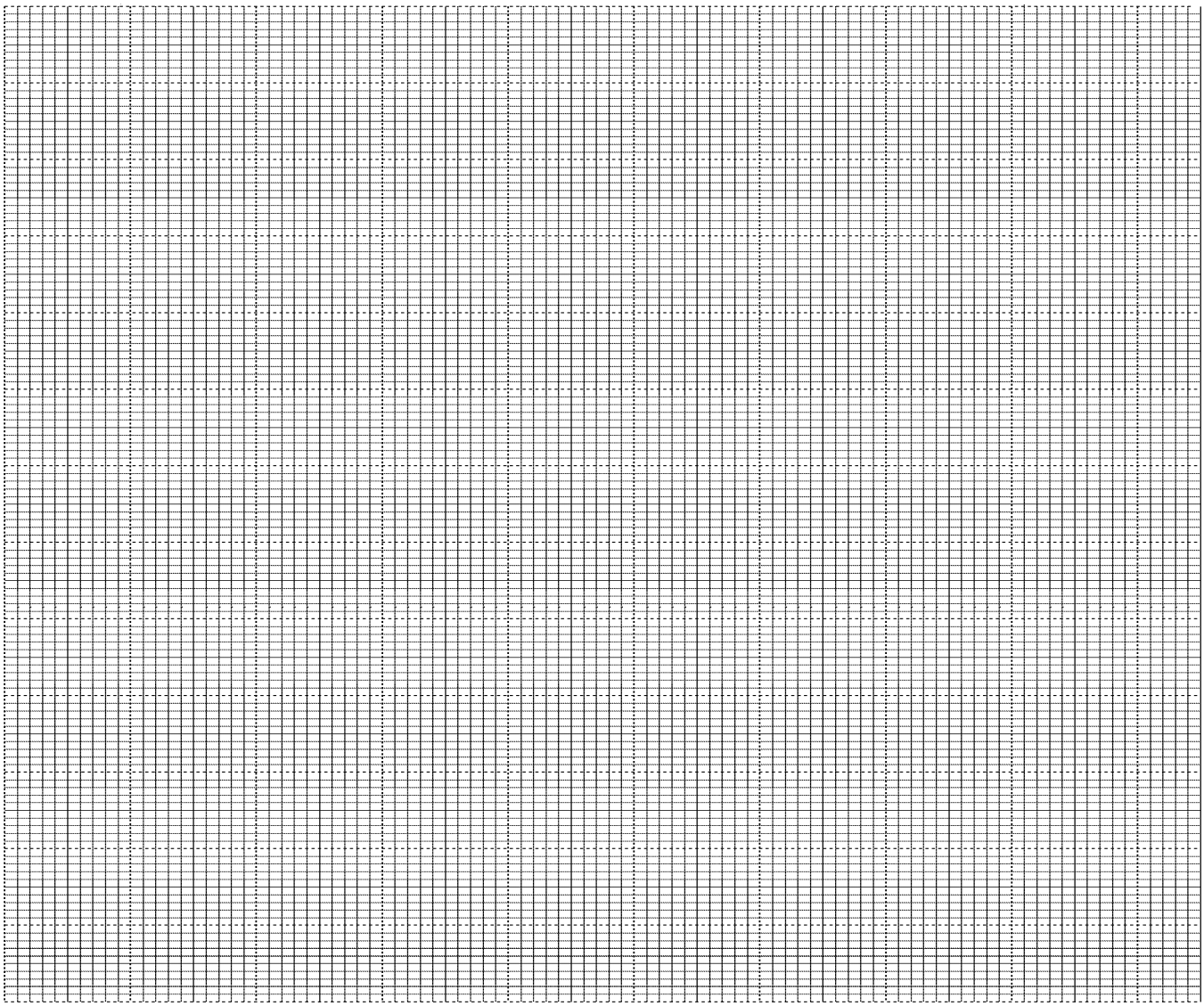
……

…….

3. (a) In a reaction to determine the rate of a reaction between magnesium ribbon and dilute hydrochloric acid 2g of magnesium ribbon were reacted with excess 2M hydrochloric acid. The volume of hydrogen gas evolved was recorded at regular intervals of one minute for eight minutes. The results are as shown in the table below.

Time (minutes)	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Volume of Hydrogen gas (cm^3)	95	160	210	237.5	260	272.5	275	275

(i) Plot the graph of time in minutes on the horizontal axis against volume of hydrogen gas on the vertical axis. (3mks)



(ii) Name the factor that was investigated in this experiment. (1mk)

……
….

(iii) Use the graph to determine the volume of hydrogen gas that was produced between 2¾ minute and 5.0 minutes. (2mks)

……
……
……
……

(iv) Explain the shape of the graph between minutes 7.0 and 8.0.
(2mks)

……
……
……
……

(b) Hydrogen gas reacts with chlorine gas to form hydrogen chloride gas as shown in the equation below.

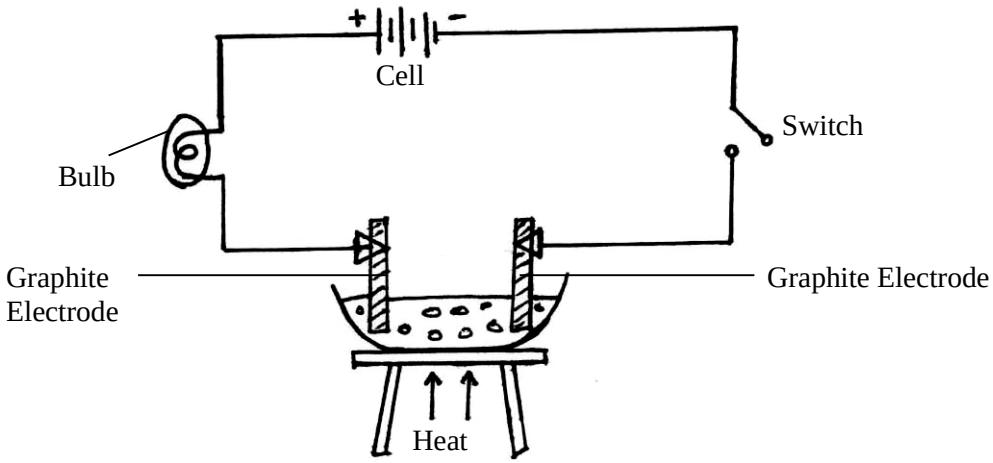
$H_{2(g)} + Cl_{(g)} \rightleftharpoons 2HCl_{(g)}$

(i) Explain the effect on the yield of $HCl_{(g)}$ by lowering the pressure for this reaction. (2mks)

……
……
……
……
……
…

(ii) Using a well labeled diagram, describe how a solution of hydrogen chloride can be prepared in the laboratory.
(2mks)

4. The diagram below shows a set up which was used by student to investigate effect of electricity on solid Molten Lead (II) Bromide. Study it and answer the questions that follow.



(a) (i) State and explain the observation at the anode when the switch is switched on. (2mks)

……

……

……

(ii) What precaution should be taken when carrying out this experiment? (1mk)

……

..

(iii) Write the equation of the reaction taking place at the Anode.

(1mk)

……

…

(iv) Why are graphite electrodes used in the experiment?

(1mk)

……

…..

(v) On the diagram, indicate the direction of flow of electrons.

(vi) The students noted that the bulb only produced light after the Lead (II) Bromide had melted. Explain this observation. (2mks)

……

……

…….

(b) State the difference in conduction of electric current between Molten Lead (II) Bromide and Lead Metal.

(1mk)

……

……

…….

(c) Explain why it is not advisable to store Copper (II) Sulphate solution in a can made of Zinc metal.

(2mks)

……

……

……

……..

(d) State **two** applications of electrolysis. (1mk)

……

……

……

5. (a) What is meant by molar heat of solution?

(1mk)

……

……

…..

(b) The enthalpies of combustion of carbon, and carbon (II) oxide are indicated below.

$C_{(s)} + O_{2(g)} \longrightarrow CO_{2(g)}$: DH = 393 KJ mol^{-1}

$CO_{(g)} + O_{2(g)} \longrightarrow CO_{2(g)}$: DH = 283 KJ mol^{-1}

(i) Draw an energy level diagram that links the enthalpy of formation of Carbon (II) Oxide to enthalpies of combustion of carbon and Carbon (II) Oxide. (2mks)

(ii) Determine the enthalpy of formation of Carbon (II) Oxide.

(2mks)

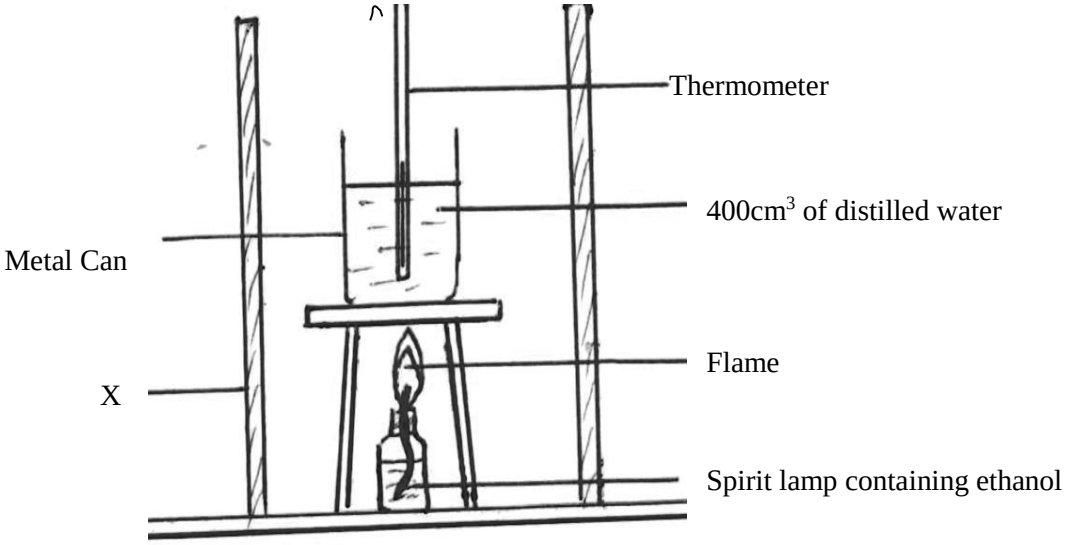
……

……

……

……..

(c) The set up below was used by a student to determine the enthalpy of combustion of ethanol (CH_3CH_2OH). Study it and answer the questions that follow.



The following data was collected from the experiment:

Initial temperature of water	12^0C
Final temperature of water	22^0C
Initial mass of spirit lamp	11.42g
Final mass of spirit lamp	10.50g
Specific heat capacity of water	$4.20Jg^{-1}k^{-1}$

(i) What is the function of the part labeled X. (1mk)

……..
..

(ii) Using the data above, calculate the change in heat of combustion of ethanol, assuming density of water is $1g/cm^3$. (2mks)

……
……
……
……
……
……

(iii) Calculate the molar heat of combustion of Ethanol (C = 12, O = 16, H = 1) (2mks)

……
……
……
……
……
……

(iv) Find the heating value of ethanol. (2mks)

……
……
……
……
……
……

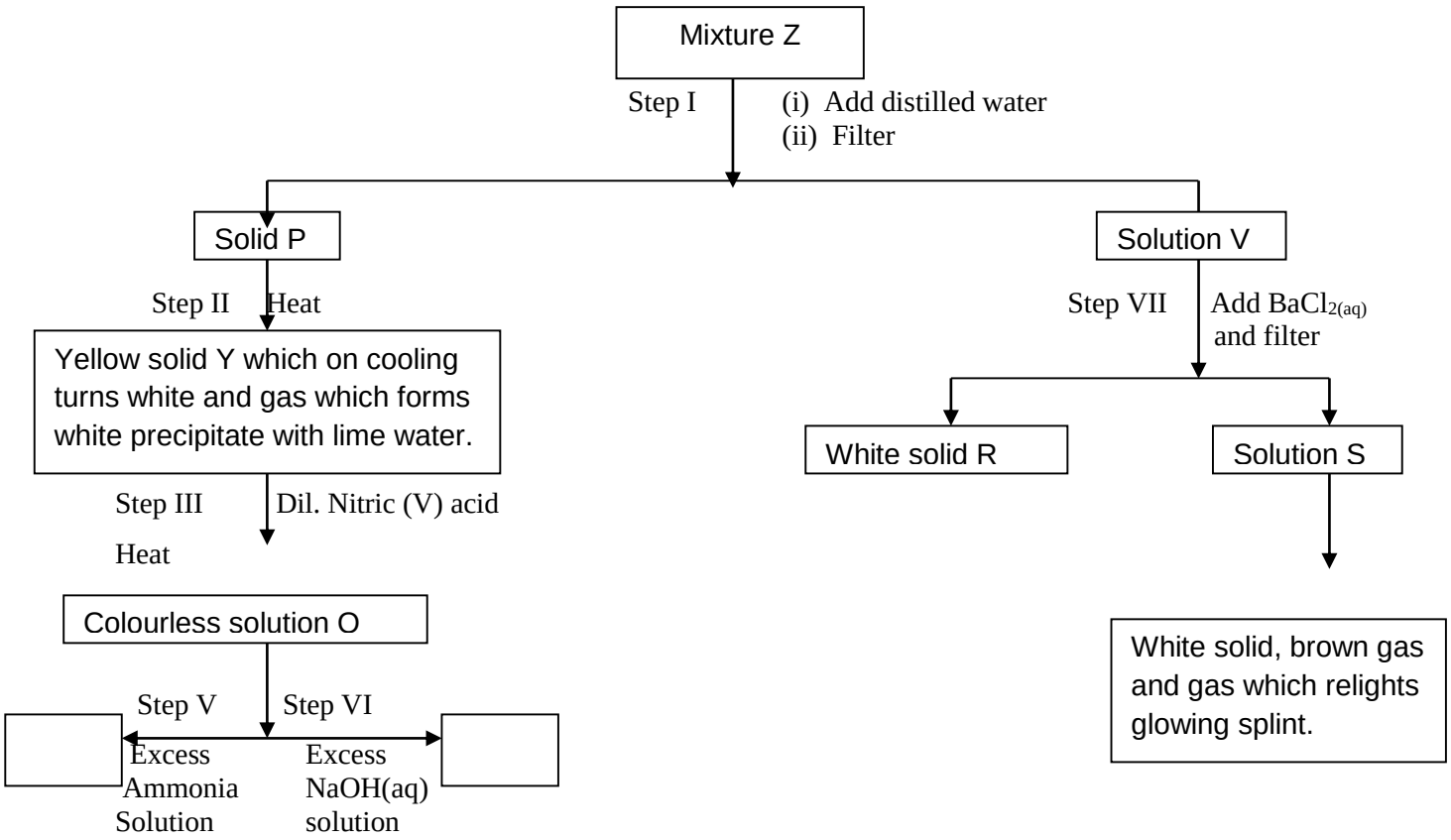
(d) Give **two** precautions necessary when using fuels.
(1mk)

……
……
……

6. (a) Starting with a solid sample of calcium carbonate, describe how a pure dry sample of calcium sulphate can be prepared in the laboratory.
(3mks)

……
……
……
……
……
……
……
……
……

(b) The flow chart below shows a sequence of reactions involving a mixture of two salts, mixture Z. Study it and answer the questions that follow.



Write the formulae of the two salts present in mixture Z. (2mks)

……

……

…….

(c) Write an ionic equation for the reaction in step VII.

(1mk)

……

….

(d) State and explain the observation in Step (V) and (VI). (3mks)

(i) Step (V)

:……...

……

……

……

(ii) Step (VI):……..

……

……

……..

(e) Write an equation showing the effect of heating a sample of anhydrous copper (II) suphate in a test tube. (1mk)

.....

7. The grid below forms part of the Periodic Table. Use it to answer the questions that follow.

The letters do not represent the actual symbols of element.

A				C	M	D	E	F
	B		H	I		J	K	
	G							

(a) (i) What name is given to the group of elements where B and G belong? (1mk)

……

…

(ii) Select a letter which represents an element that gain electrons most readily. Give a reason for your answer. (2mks)

……

……

……

(iii) Explain why the atomic radius of K is smaller than its ionic radius. (2mks)

……

……

……

(iv) Using dots (•) and crosses(x) show the bonding between element G and M. (2mks)

(v) A carbonate of element G react with dilute sulphuric (VI) acid at s.t.p to produce 0.4dm^3 of gas. Determine the mass of G which was reacted with the acid. (Molar gas volume at s.t.p is 22.4dm^3. (Relative atomic mass of G = 24 and C = 12, O = 16) (2mks)

……
…
……
……
……
……
……
……
……
…

(b) Explain why sodium chloride has melting point of 1074^{0}C whereas silicon tetrachloride has a melting point of 203^{0}C under the same conditions. (2mks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya certificate of Secondary Education

451/1
COMPUTER STUDIES
PAPER 1
(THEORY)
TIME: 2 ½ hours

SECTION A (40 MARKS)
Answer all the questions in this section

1. Name types of registers and explain the purposes for each type of register (5marks)

……

……

……

……

……

……

2. State the factors you will consider when selecting an input device (3marks)

……

……

……

……

3. Define the following terms:- (4marks)
   i) Assembler

   ……

   ii) Compiler

   ……

   iii) Interpreter

   ……

   iv) Source program

   ……

   v) Object program

   ……

vi) Algorithm

……

vii) Flow chart

……

viii) Pseudo code

……

4. What merits does time sharing data processing method offer (2marks)

……

……

5. Commercially produced packages have disadvantages as compared to user made packages. State the disadvantages (3marks)

……

……

……

……

6. Write the following acrimonious in full as used in computer studies (2marks)
   i) WYSWYG

   ……

   ii) RMM- with reference to memory –

   ……

   iii) EBCDIC –

   ……

   iv) OS –

   .....

7. Explain the types of error that are likely to exist in a program (4marks)

……

……

……

……

8. A firm which wants to undertake programming of its tasks has approached as a software engineer to advice on what to look for in the high level language to use. Outline the factors it should observe in its choosing task (4marks)

……

……

……

……

9. What advantages do double memory have for a user who opts for them (2marks)

……

……

10. Name the volatile main memory in the computer and state its use (2marks)

……

……

11. State advantages that an electronic spreadsheet has over traditional spreadsheets (4marks)

……

……

……

……

12. Differentiate between the value parameter and actual parameter (3marks)

……

……

……

……

13. Briefly state the different between a multi programming environment and a multi processing environment (2marks)

……

……

SECTION B

Answer question 14 and any other three questions in this section

14. In any given triangle ABC, the tangent of an angle A given the three sides of the triangle as a,b and can be obtained by the formular.

$$\text{Tan } 1/2\ A = \sqrt{\frac{(s-a)(s-c)}{s(s-a)}}$$

With aid of program development tool write the code that will calculate tan ¼ A. (15marks)

15. (a) Computers are being made use of in the education sector. Explain how they are being made use of. (8marks).

……

……

……

……

……

……

……

……

(b) The medical industry is experiencing a lot of break through by use of IT. Discuss the use of computers in medical. (4marks)

……

……

……

……

(c) Computing technology has many application areas of out life. Foe each of the following three areas give examples of how the application of this technology has improved the work being done.

(3marks).

i) Banking

……

ii) Communication

……

iii) Retail systems

……

16. Write brief notes on

i) Structured programming (4marks)

……

……

……

……

ii) telecommuting

……

……

……

iii) Asynchronous mode of data transmission on a line (3marks)

……

……

……

iv) Computer crimes and abuse (5marks)

……

……

……

……

17. (a) Define the following terms

i) Database (1½ marks)

……

ii) Database management system (½ mark)

……

iii) Hierarchical database (1mark)

……

iv) Relational database (1mark)

……

v) Network database (1marks)

……

(b) List the advantages of using an electronic database system for storage of data over the file approach.

……

……

……

……

(c) Study the spreadsheet below and answer the questions that follow

	A	B	C	D
1	WESTERN COMPBOOK CENTRE SALES			
2	BOOK TITLE	PRICE PER BOOK	BOOKS SOLD	
3	DBASE IV	400.00	145	
4	LOTUS FOR DUMMIES	460.00	15	
5	OFFICE WORD IN 3 DAYS	300.00	65	
6	LEARN C++ IN 3 DAYS	700.00	100	
7	TEACH YOURSELF PASCAL	700.00	200	
8	COMPUTER STUDIE	500.00	300	
9	THE CLEVER FOOL COMPUTER	300.00	10	
10				

(i) Write down the formula that can be used to find the price of the most costly book. (1mark)

……

……

……

(ii) Write down the formular that can be used to determine the total sales for the book titled' COMPUTER STUDIES. (1mark)

……

……

……

(iii) Write down the formular that can be used to determine the average price of the book. (1mark)

……

……

(iv) Write down the formula in a cell D6 that can be used to find the new price per book if they went up by a percentage written in cell B10 and the formula has to be entered only in cell D3 the be copied to others (1mark)

……

……

(v) Write down the output in D7 if in B6 is 10% (1mark)

……

……

(d) State any four advantages of using electronic spreadsheet as compared to a traditional worksheet (2marks)

……

……

18. a) Differentiate between a smart terminal and an intelligent terminal (2marks)

……

……

b) List file organization methods (2marks)

……

……

c) Name and explain three level of programming languages (4½ marks)

……

……

……

……

d) What are the characteristics of a user friendly program (3marks)

……

……

……

……

e) What is the work of a system analyst (2½ marks)

……

……

……

f) Name data types support by a spreadsheet and give four examples of spreadsheet software (3marks)

……

……

……

19. a) Explain what systems software is (5marks)

……

……

……

……

……

b) Explain the factors that make it necessary to have operating systems in the today computers (5marks)

……

……

……

……

……

……

c) Name and briefly explain user interfaces (5marks)

……

……

……

……

……

……

……

……

……

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education

451/2
COMPUTER STUDIES
PAPER 2
(PRACTICAL)
TIME: 2½ HOURS

Answer question one (Compulsory)

1. (a) Type the following table and save as LIST. DOC in the diskette provided: adjust your font type to Times New Romans, font size 12. Use the auto sum feature to get the sum in the fees column.

Name	Box Number	Town	Form	House	Fees
Wanjala Naswa	132	Namalala	2W	CHUI	8575
Abdalla Ali	100	Bamburi	3R	NDOVU	9250
Mulwa Norr	50	Matuu	1W	SIMBA	11500
Mwangi Mama	500	Kairuthi	4R	CHUI	10500
Kiptoo John	100	Tindinyo	2R	NDOVU	8575
					(20 marks)

(b) Using the third row entries in the tables provided in (a) above, type the following letter. Include all the formatting features in the letter. Justify the first paragraph of the letter. Save as LETTER.DOC in the diskette provided.

Kula Mawe High School,
P.O Box 1000,
Kula Mawe.

30th November 1998.

……
P.O BOX ……
……..

Dear …….

RE: ADMISSION

We are pleased to offer you a place in this school in form …….your house will be ……The amount of fees required is kshs. …… The school opens on 5th January, 1999.

You are required to bring the following items:

Beddings	Stationery
1. 1 mattress	1. Text books
2. 2 blankets	2. Exercise books
3. 2 bed sheets	3. 1 mathematical set
4. 1 bedcover	4. 1 ruler
5. 2 pillow cases	5. 1 Bible / Koran

Yours faithfully,

Henry Mkubwa
(PRINCIPAL) (30marks)

(c) Print both **LIST.DOC** and **LETTER.DOC.**

Answer either question 2 or 3

KOROGOCHO ACADEMY
FORM THREE END YEAR EXAM MARKS

STUDENT NAME	ENGLISH	KISWAHILI	MATHEMATICS	HISTORY
Ayuku Aseka	70	60	40	50
Irungu Wambua	50	70	60	40
Khalifa Mudigo	80	40	50	60
Nosieta Soita	30	75	60	50
Onyango Otieno	40	55	70	60

2. (a)
   (i) Create a worksheet with the following entries:
   (ii) Adjust column width where necessary to display all entries in detail. Validate the cells to accept ONLY numerals between 0 -100 and return a comment "**please enter a n**umber **between 0 and 100**" whenever an out of range error occurs. Save the worksheet as MARKS1. (11 marks)
   (b) Obtain the following:
   i) Total score for each student
   ii) Mean score for each student
   iii) Highest score per subject
   iv) Standard deviation per subject
   v) Rank for each student
   The grade for each student based on the following information.

MEAN	GRADE
75 – 100	A
70 – 74	A-
65 -69	B+
60 – 64	B
55 – 59	B-
50 – 54	C+
45 -49	C
40 - 44	C-

On the paper provided write the formula for each activity above.
Save your worksheet as MARKS 2. (22marks)

(c) Insert a new row for Chege Kisilu between Ayuku Aseka and Irungu Wambua. Enter his scores as 60. 50, 80 and 20. Save your worksheet as MARKS 3. (3marks)

(d) Format the ranges with values for mean score and standard deviation to display results to 3 decimal places. Save your worksheet as MARKS 4. (4marks).

(e) Select a free cell and enter 10%. Use the value entered to increment the mean score of each student. Save your worksheet as MARKS 5. (10 marks)

(f) Print MARKS 2, MARKS 3, MARKS 4 and MARKS 5.

3. **Database**

A Jua Kali Association in Nairobi created a database file for their members. In addition to entering a members' numbers and names, each record contained a date of registration of each member, membership fees paid and title of the activity.

a) Create a database file structure called JUADAT1 using the information given in table 1. The field names should match those of the data provided. Choose an appropriate primary key. Save the table as JKALI. (15 marks)

b) Append the data in table 1 on the structure created in (a) above (10marks)

c) Sort the records in JKALI on the fields you have defined for **activity** and **name** in ascending order. Save the table as JKALI2. (4Marks)

d) Create a report of the records in JKALI. The report should contain the following fields: Names, date of registration, and title of the activity. The report should sum up all the fees paid. The page title of the report is "JUA KALI REGISTRATION". Save the report as JUAREPORT. (15Marks).

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education

101/1
ENGLISH
PAPER 1
TIME: 2 HOURS

1. **Functional skills** **(20marks)**

Imagine you are the chairperson of your school choir. The choir has been invited to participate in the national blood donation week by composing songs and poems that sensitize people on the importance of donating blood to secure lives.

Write a memo to the choir members informing them of this invitation, the importance of participating and ask for their suggestions to enable the choir participate effectively.

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

……

2. **Close test** **(10 MARKS)**

Read the passage below and fill I each gap with the most appropriate word

Language can be powerful, dangerous, empty……..… persuasive. In fact it can be logical or …… An orator can ……..emotions such as enthusiasm and anger. We all use language in speech and in writing and most jobs depend partly on our ……..….to do these things well. Propagandist often use loaded words whose ……..… is emotional rather than rational. Indeed, many arguments depend……..…on a single emotive phrase. Did you know that ……..….advertising and politics ……...is seen as a powerful weapon based on the belief that, ……. you say something often enough, people will start to ……..it.

3. Oral skills

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

I WANT TO DIE WHILE YOU LOVE ME

I want to die while you love me

While yet you held me fair,

While laughter lies upon my lips

And lights are in my hair

I want to die while you love me,

I could not bear to see

The glory of this perfect day

Grow dim- or cease to be

I want to die while you love me,
Oh! Who would care to live
Till love has nothing more to ask
And nothing more to give.

I want to die while you love me,
And bear to that still bed
Your kisses, turbulent, unspent,
To warm me when I'm dead.
(By Georgia Douglas.)

i) Identify the words that rhyme in this poem. (3marks)

……

……

……

ii) Which words would you stress in the first and second lines of stanza I. (3marks)

……

……

……

iii) What is the effect of reporting the line "I want to die while you love me" (2marks)

……

……

iv) How would you say the last stanza (2marks)

……

……..……

b) Underline the word in which the vowel sound is different in the following words. (4marks)

Mall	Mate	Mat	Mad
Farm	Firm	Hurt	Girl
Son	Sun	Can	Hut
Book	Boob	Boom	Boot

c) Give another word pronounced the same as the following. (5marks)

i) Hall
ii) Holy
iii) Pore

iv) Suite

v) Night

d) Your school has invited a guest speaker to give a talk on academics. At the end of the speech, students comment that the talk was interesting. Give six reasons why they commented so. (6marks)

……

……

……

……

……

……

e) Kamau is taking tea at the staff canteen at starehe. Along comes Mr. Kuria and the conversation below ensues. Fill in the parts left out.

Kuria: Good morning, do you mind if I sit here

Kamau …….. (1 mark)

Kuria: Isn't it a nice morning (pouring tea into his cup) Eeh. (1mark)

……

……

Kamau : Here you are

Kuria : Thank you

Kamau You are dressed to kill, what's the occasion

Kuria : As a matter of fact, I have to attend an interview. Mind telling me how to get to the T.S.C Headquarters.

Kamau …… ……..

……..

……..

Kuria : Thank you very much; I should be able to find my way with ease.

Kamau …… (1mark)

walimuepublishers@gmail.com

CALL/TEXT/WHATSAPP 0705525657 FOR ENGLISH PAPER 1&2

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education
312/1 GEOGRAPHY

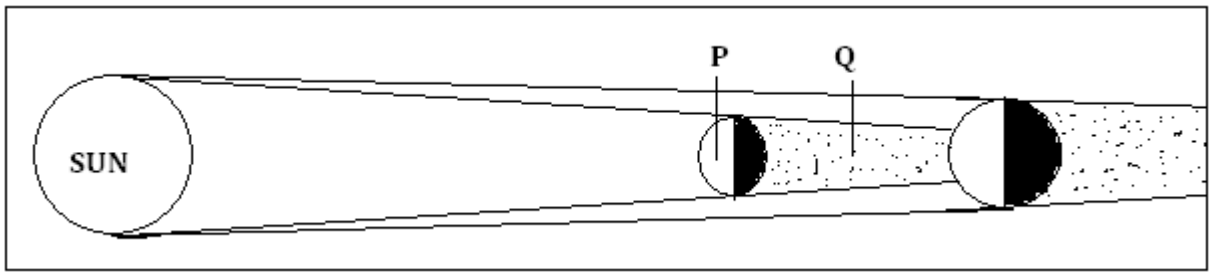
PAPER 1 (THEORY)

TIME: 2 ¾ HRS

SECTION A
Answer ALL the questions in this section

1. a) What is a natural satellite? 2marks

b) Use the diagram below to answer the questions that follow.



i. What type of eclipse is represented by the diagram? 1mark

ii. Name the features marked P and Q. 2marks

2. a) Define the term 'atmospheric pressure' 2marks

b) Explain how the following factors influence atmospheric pressure over the earth's surface:

i. Altitude 2marks

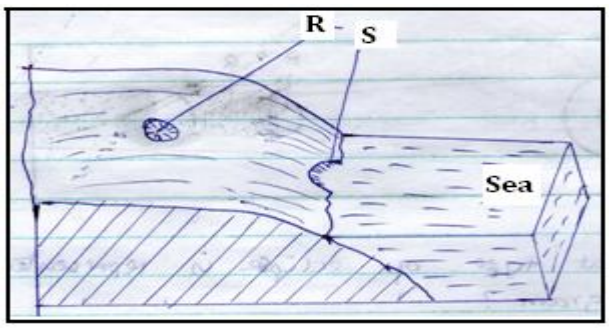
ii. Temperature 2marks

3. a) Name two types of fog. 2marks

b) State three conditions that are necessary for the formation of fog. 3marks

4. Draw a labeled diagram of a well – developed soil profile. 5marks

1. The diagram below represents coastal landforms



a) Name the features marked R and S 2marks
b) Distinguish between a constructive wave and a destructive wave. 2marks

SECTION B:

<u>Answer question 6 and any other two questions</u>

6. Study the Map of Nkubu (1:50,000) sheet 122/1 provided and answer the following questions.

a) (i) Using the marginal information, give the magnetic variation of the area when the map extract was drawn. 2marks
(ii) Convert the scale of the map into a statement scale 2marks
(iii) Give the longitudinal extent of the area covered by the map. 1mark

b) (i) Give three types of natural vegetation found to the west of Easting 50 3marks
(ii) What is the length in kilometers of the dry weather road from the junction at Getanga (509958) to the junction at Kaongo (573963)? 2marks
(iii) Identify the drainage feature found in grid square 4388 (1mark)

c) Using a vertical scale of 1cm to represent 100m
(i) Draw a cross section from grid reference 390910 to 450910 3marks
(ii) On the cross section, mark and name the following;
- A river
- A forest
- A loose surface – all weather road 3marks

(iii) Calculate the vertical exaggeration of the section you have drawn 2marks
(iv) Citing evidence from the map, explain three factors that favour coffee growing in the area covered by the map. 6marks

7. a) (i) Differentiate between a rock and a mineral 2marks
(ii) State five characteristics of minerals. 5marks

b) Explain how igneous rocks are formed. 6marks

c) Give two examples of each one of the following categories of sedimentary rocks
i. Mechanically – formed rocks 2marks
ii. Chemically – formed rocks. 2marks

d) You are planning to carry out a field study of rocks within your school environment.
i. Give three characteristics that you would look for while identifying different rock types in the school environment. 3marks
ii. Identify three methods you would use to record information gathered during the study. 3marks
iii. State how you would use the following items during the field study.
- A geological map 1mark
- A polythene bag 1mark

8 a)
i. What is weathering? 2marks
ii. Explain three factors which influence the type and rate of weathering 6marks

b) List down five processes of chemical weathering 5marks

c) Explain three ways in which people cause weathering. 6marks

d) Explain the effect of weathering on the following

i) Tourism 2marks
ii) Soil formation 2marks
iii) Building industry 2marks

9. a) Describe how a river erodes its channel by the following processes
i. Hydraulic action. 4marks
ii. Corrasion 4marks
b) Describe the process of a river capture. 6marks
c) Using diagrams, describe the following drainage patterns.
i. Dendritic 2marks
ii. Trellis 2marks
d) A form four class is planning to carry out a field study of a river in its youthful stage
i. State four ways in which they would prepare for the study. 4marks
ii. Give three features they are likely to study. 3marks

10. a)
i. What is a desert? 2marks
ii. Name three types of deserts, according to the nature of their surfaces. 3marks
b) Explain three processes of wind erosion. 6marks
c) With the aid of well – labeled diagrams, describe how the following desert features are formed;
i. A rock pedestal 5marks
ii. A barchan 5marks
d) What is the significant of desert features to man? 4marks

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education

312/2

GEOGRAPHY

PAPER 2 (THEORY)

TIME: 2 ¾ HRS

Section A
Answer ALL the questions in this section.

1. (a) Identify three environmental conditions which favour commercial beef farming in Kenya. (3marks)
   (b) Give two exotic breeds of cattle reared in commercial ranches in Kenya highlands. (2marks)

2. The table below shows mineral production in thousand tonnes per day for selected countries in Africa in June 2010. Use it to answer question (a)

COUNTRY	PRODUCTION IN 000' TONNES
Ghana	3,800
Zambia	2,550
Nigeria	800
South Africa	9,600
Tanzania	2,500
Uganda	1,900

   (a) i. What is the difference in production between the highest and the lowest producer? (1mark)
   ii. What is the total production of mineral produced in June 2010 in the region? (1mark)
   iii. Calculate the daily average production for Zambia in June 2010. (1mark)
   (b) Name two minerals mined using panning method of mining. (2marks)

3. (a) State three physical conditions that favour maize growing in Uasin Gishu District in Kenya.(2marks)
   (b) Identify three problems facing maize farming in Kenya. (3marks)

4. (a) Apart from historical sites, name two tourist attractions along the Coast of Kenya. (2marks)
   (b) Give three reasons why it's necessary to preserve historical sites. (3marks)

5. (a) Apart from petroleum, name two other non-renewable source of energy. (2marks)
   (b) Give two reasons why Kenya has not fully exploited her geothermal potential. (2marks)

SECTION B
Answer QUESTION 6 and any other two questions from this section.

6. The table below shows items exported from forest products in Kenya. Use it to answer questions 6 (a) (i) and (ii)

EXPORT PRODUCTION	WEIGHT IN TONNES
Plywood	12,600
Veneers	9,990
News print	1,560
Block board	750
TOTAL	**24,900**

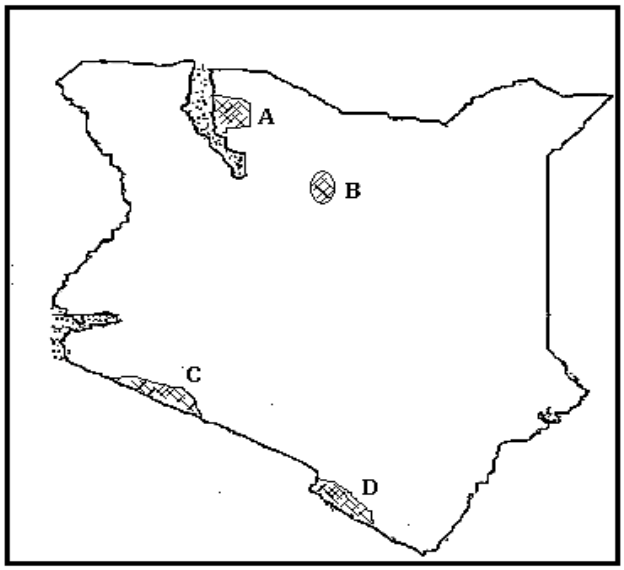
(a) i. Name the main export item (1mark)
ii. Draw a divided rectangle 15cm long to represent the above information. (8marks)
(b) i. What is agro-forestry? (2marks)
ii. Give five reasons why afforestation is being encouraged in Kenya. (5marks)
iii. State three factors that have led to reduction of the area under forest in Kenya. (3marks)
(c) Explain three problems that affect forestry in Canada. (6marks)

7. (a) i. Draw an outline map of Nigeria. (1mark)
ii. On the map, show the main palm oil growing areas. (1mark)
iii. Mark and show Lagos. (1mark)
(b) i. Give four climatic conditions favouring growing of oil palm in Nigeria. (4marks)
ii. Describe production of palm oil in Nigeria under the following sub headings.
- Harvesting (3marks)
- Processing (4marks)
(c) i. Apart from making oil, give four other uses of oil palm. (4marks)
ii. Mention four crops grown in Kenya that are processed to produce vegetable oil. (4marks)
iii. State three problems experienced in the marketing of palm oil in Nigeria. (3marks)

8. (a) i. Differentiate between fishing and fisheries (2marks)
ii. Identify three traditional methods of fishing (3marks)
(b) i. Name two types of fish caught along the West Coast of Canada. (2marks)
ii. Describe purse-sieving as a method of fishing. (5marks)
iii. Identify four problems experienced in marketing of fish in Kenya. (4marks)
(c) i. Give three methods of preserving fish in Kenya. (3marks)
ii. Explain how the following factors influence fishing.
- An intended coast line (2marks)
- Ocean currents (2marks)
- Advanced technology (2marks)

9 (a) i. Differentiate between reclamation and rehabilitation. (2marks)
ii. Apart from draining swamps, identify two other methods used to reclaim land in Kenya (2marks)
iii. Give four benefits that have resulted from reclamation of the Yala swamp. (4marks)
(b) Describe the stages involved in the reclamation of land from the sea in Netherlands. (6marks)
(c) Form four students carried a field study on Perkerra Irrigation scheme.
i. State four human problems they were likely to identify facing irrigation in Kenya. (4marks)
ii. Name three crops they identified being grown in Perkerra irrigation scheme. (3marks)
iii. For their field study, they prepared a working schedule. State two items they included in the schedule. (2marks)
iv. State two objectives they formulated for their study. (2marks)

10. (a) i. Name four national habitats for wild life. (4marks)
ii. State three physical factors that influence the distribution of wild life in east Africa. (3marks)
(b) Use the map of Kenya below to answer question (i) and (ii) below.



i. Name the national parks and game reserves marked A, B, C, D (4marks)
ii. Explain three problems experienced by the Kenya government in its effort to conserve wild life. (6marks)
iii. Explain four factors that have hindered development of domestic tourism in Kenya. (8marks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education
HISTORY AND GOVERNMENT
PAPER 1
TIME: 2½ HOURS

SECTION A (25 MARKS)
Answer ALL Questions in this section.

1. Identify **one** aspect of History.
   (1mk)
2. Name the basic political unit among the Cushites during colonial period.
   (1mk)
3. What was the main reason for the migration of the Eastern Bantus from Shungwaya during pre-colonial period?

   (1mk)
4. Identify **two** communities that adopted mixed reactions towards the British Colonialization of Kenya during the 19th century.
   (2mks)
5. Identify **two** evidences which shows that Chinese traders reached the Kenyan Coast before 1500AD
   (2mks)
6. State **two** procedures involved in arbitrating a conflict.
   (2mks)
7. Identify the main reason why the second Lancaster House conference was held in 1962.
   (1mk)
8. What was the main method used by Thomas Mboya in the struggle to protect African rights against colonialism.

   (1mk)
9. What was the main constitutional amendment made in 1975?
   (1mk)
10. Who is the founder of the "Green Belt Movement" in Kenya?
    (1mk)
11. Give **two** types of cases handled by the Kenyan judiciary.
    (2mks)
12. Name the court that handles presidential election petition.
    (1mk)
13. Identify **two** educational commissions appointed by the government in independent Kenya.
    (2mks)
14. Give **two** challenges facing utilization of the Constituency Development Fund in Kenya.
    (2mks)
15. State the main contribution of the senate in Kenya.
    (1mk)

16. Give **two** main ways on how the National government spends her revenue.
(2mks)
17. State **two** objectives of Devolution of government in Kenya.
(2mks)

SECTION B: (45 MARKS)
Answer any THREE questions in this question

18. (a) Give reasons that led to the migration and settlement of the Western Bantu.
(5mks)
(b) Describe the social organization of the Mijikenda during pre-colonial period.
(10mks)

19. (a) State **five** factors that led to the growth of towns along the Kenyan Coast before 19th Century .
(5mks)
(b) Explain **five** factors that led to the decline of the Portuguese rule.
(10mks)

20. (a) Identify **three** methods used by the colonial government to discourage the Mau Mau movement.
(3mks)
(b) Describe the roles of women during the struggle for independence in Kenya.
(12mks)

21. (a) Give **three** ways in which the government of Kenya has promoted culture of the people since independence.
(3mks)
(b) Describe **six** challenges facing Multi-party democracy in Kenya.
(12mks)

SECTION C: (30 MARKS)
Answer any TWO questions in this question

22. (a) State **five** values of good citizenship in Kenya.
(5mks)
(b) Explain the rights of an accused person during trial in a court of law in Kenya.
(10mks)

23. (a) Give **five** functions of the Attorney General.
(5mks)
(b) Give reasons why there should be separation of powers between the Legislature, Judiciary and the Executive.
(10mks)

24. (a) State **three** principles of Public Finance in Kenya.
(3mks)
(b) Explain the reasons why it is important for the national government to prepare the National Budget annually.
(12mks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

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

HISTORY AND GOVERNMENT

PAPER 2

TIME: 2½ HOURS

SECTION A (25 MARKS)
Answer ALL Questions in this section.

25. Mention **one** political importance of studying History. (1mk)

26. Identify **two** characteristics of the Aegyptopithecus. (2mks)

27. What was the importance of the development of writing in Mesopotamia during the Agrarian Revolution? (1mk)

28. Identify **two** factors that led to the development of local trade. (2mks)

29. State **one** way in which European colonization led to the decline of the Trans-Atlantic trade. (1mk)

30. Identify **two** trans-continental railway lines in the modern world. (2mks)

31. Identify **two** factors that led to the scientific revolution. (2mks)

32. Give **one** factor that led to the emergence of London as a major trading centre. (1mk)

33. Identify **two** external factors that led to the decline of the Asante empire. (2mks)

34. Give **two** negative political effects of the partition of Africa by the European powers. (2mks)

35. State how Islamic religion enabled the Mandinka to resist French invasion from 1886 to 1898. (1mk)

36. Identify **one** social shortcoming of Indirect role in Nigeria. (1mk)

37. Identify **one** factor that led to the riots of 1948 in Ghana. (1mk)

38. Give the role that diplomacy played in the struggle for independence in South Africa. (1mk)

39. State **one** way in which the violation of the Treaty of Versailles led to the outbreak of the Second World War (1939 – 1945).(1mk)

40. Mention **two** personalities who led in the formation of the Non-Aligned Movement. (2mks)

41. State **two** objectives of the Pan-African Conference of 1900. (2mks)

SECTION B: (45 MARKS)
Answer any THREE questions in this question

42. (a) State **five** ways in which the discovery of fire changed the life of early man. (5mks)
    (b) Explain **five** disadvantages of the open-field system of Agriculture in Europe before the Agrarian Revolution. (10mks)

43. (a) Identify **three** ways in which the development of steam enhanced the development of industries in Europe. (3mks)
    (b) Explain **six** economic factors that promoted industrial development in Britain. (12mks)

44. (a) Identify **three** economic activities that led to the growth of Buganda kingdom during the Pre-colonial period. (3mks)
    (b) Explain the social organization of the Shona during the pre-colonial period. (12mks)

45. (a) State **three** political challenges faced in the struggle for Independence in Mozambique. (3mks)
    (b) Explain the contributions of Nelson Mandela in the struggle for independence in South Africa. (12mks)

SECTION C: (30 MARKS)
Answer any TWO questions from this question

46. (a) Identify **three** new methods of fighting used in the World War I. (3mks)
    (b) Explain any **five** reasons why the League of Nations failed to maintain World Peace and Security. (12mks)

47. (a) State **three** aims of the Commonwealth of Nations. (5mks)
    (b) Explain the steps taken to ease the Cold War. (12mks)

48. (a) State **three** functions of the specialized technical commissions of the African Union. (3mks)
    (b) Explain the achievements of the Common Market for Eastern and Southern Africa (COMESA). (12mks

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education (K.C.S.E.)
HOMESCIENCE
PAPER 1
TIME: 2 ½ HOURS

SECTION A (40 MARKS)

Answer ALL Questions in the Spaces Provided

1. State **two** ways in which Home science is related to Geography. (2mks)

   ……

   ……

   ……..

2. Mention **two** aims of administering first aid.
   (2mks)

   ……

   ……

   ……

3. Explain **two** points on the daily care or brooms. (2mks)

   ……

   ……

   ……..

4. Apart from micro-organisms, suggest **two** other ways in which food may be contaminated. (2mks)

   ……

   ……

   ……

   ……..

   ……

   …..

5. Name **two** functions of a seam ripper.
   (2mks)

   ……

   ……

   ……

6. State **two** disadvantages of open drainage system. (2mks)

……

……

…….

7. List **three** functions of vitamin C in the body.
(2mks)

……

……

……

……

8. List **four** methods used in neatening an open seam. (2mks)

……

……

……

……

……

9. Give **three** uses of common salt in laundry work. (3mks)

……

……

……

10. Define the following terms as used in meal planning.
(3mks)

(i) A
meal:……

……

….

(ii) A
course:……..

……

……

(iii) A
cover:……..

……

…

11. Mention **two** dangers of heavy smoking during pregnancy by a pregnant woman. (2mks)

……

……

……

12. Give **three** reasons for sieving flour before using. (3mks)

……

……

……

……

13. Suggest **two** methods of cooking suitable for preparing meals for an invalid. (2mks)

……

……

……

14. Suggest **two** factors which may interfere with a family's budget. (2mks)

……

……

……

15. State **two** points to remember when cleaning a sickroom. (2mks)

……

……

……..

16. Suggest **three** ways of saving energy when using a gas cooker. (3mks)

……

……

……

……

17. Complete the table below on primary and secondary colours. (3mks)

Primary colours	**Secondary colours**
_____ + Red	
_____ + _____	Green
Blue + _____	

18. Give **two** reasons why electricity is the best type of artificial light. (2mks)

……

SECTION B (20MKS): (COMPULSORY)

Answer question 21 in the spaces provided

19. You have been asked to assist in doing some household chores. Explain how to:-
    (a) Daily clean your bedroom.
    (9½mks)
    (b) Clean an aluminium pan.
    (4½mks)
    (c) Daily clean a hurricane lamp. (6mks)

SECTION C (40MKS)

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

20. (a) State **five** points on the care of the teeth. (5mks)
    (b) Give any **five** rules to follow when darning.
    (5mks)
    (c) Mention **five** ways of achieving safe parenthood. (5mks)
    (d) List **five** reasons for sufficient ventilation in a room.
    (5mks)

21. (a) Explain **three** conditions suitable for the growth of yeast.
    (10mks)
    (b) Mention **four** ways of saving energy when lighting at home. (4mks)
    (c) By use of diagrams, explain how to make an overlaid seam. (8mks)
    (d) Name any **two** governmental bodies which act as a source of information to consumers. (4mks)

22. (a) State **five** general rules to follow when steaming food. (5mks)
    (b) Explain how the following factors cause malnutrition:- (6mks)
        (i) Poverty
        (ii) Ignorance
        (iii) Lifestyle
    (c) Name any **three** types of colour schemes used in interior decoration. (3mks)
    (d) Giving an example, explain three reasons for using soft furnishings at home. (6mks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

KISWAHILI PAPER 1

1. **Inshayalazima**
   Andika resipe kuhusu jinsi ya kutayarisha kitoweo cha nyama.

2. Matatizo ya kifamilia yamezidi katika jamii. Eleza kinachosababisha mizozo hii kisha ueleze hatua zifaazofaa kuchukuliwa ili kutatua tatizo hili.

3. Mhini na mhiniwa njia yao ni moja.

4. Andika insha itakayomalizikia kwa:
   …… nilipoiona paa la nyumba yetu nilishusha pumzi, nilishukuru.Kwa kweli hiyo safari haikuwa rahisi kwangu.

walimuepublishers@gmail.com

KCSE POSTMOCKS

102/2
KISWAHILI: LUGHA
(Ufahamu, Ufupisho, Matumizi ya Lugha na Isimu Jamii)
KARATASI YA 2
MUDA: SAA 2½

1. UFAHAMU

Soma makala yafuatayo kasha ujibu maswali:

Shule ya bweni ya wasichana ya Askofu Timotheo kwa kawaida ilikuwa na utilivu wa ajabu. Wasichana walitarajiwa kuendeleza shughuli zao kwa utilivu na ustaarabu huku wakizingatia maadili ya hali ya juu. Hata hivyo, asubuhi hii ya ijumaa hali ilikuwa tofauti. Nafasi ya utulivu wa kawaida ulichukuliwa na mzo wa shughuli. Hii ilikuwa siku ya kipekee na msisimko ulijaa katika nyoyo za wanafunzi. Ilikuwa siku ya tamasha za muziki na drama za shule za eneo la mlimani.

Mwendo wa saa nne mabasi ya shule ngeni yalikuwa yameanza kuingia huku yakiendelea kutapika wanafunzi wa kike na kiume wakiandamana na walimu wao. Mara tu baada ya kufika, waliteremsha, kutoka magari yao, vifaa vyao vilivyohitajika katika tamasha na kuvipeleka katika ukumbi mkuu ambamo mashindano yangefanyika. Ala za muziki za kila nui na maleba ya waigizaji, vyote vilipelekwa ukumbini.

Si wote waliofika katika shule ya bweni ya wasichana ya Askofu Timotheo walikuwa washiriki wa tamasha. Wengi walifika kushangilia makundi yao. Miongoni mwa waliofika kufanya hivyo alikuwa Chris Masazu, mwanafunzi wa shule ya wavulana ya Lenga juu. Yeye na wanafunzi wengine wa kiume walizuru kila sehemu ya shule hii ngeni kuridhisha macho yao. Hawakuridhisha macho tu, bali pia walicheza michezo ya ujana ama wakijua au kutojua kuwa ujana una tegemeo. Vijana kama hao waliona mikutano ya shule nyingi kuwa fursa ya pekee ya kuacha kumbukumbu ya ziara husika. Masazu alipenda sana michezo hiyo na alikuwa ameweka shabaha yake ya siku.

MASWALI

(a) Toa Kichwa mwafaka kwa makala haya (alama1)

……

……

(b) Eleza ni kwa nini katika shule za Askofu Timotheo utulivu wa kawaida ulikosekana siku inayorejelewa hadithini. (alama4)

……

……

……

……

(c) Je, kuna madhara gani ya kuandamana na wanafunzi michezoni ambao hawatashiriki hai kwenye michezo. (alama4)

……

……

……

……

……

(d) Ni nini kinachodhihirisha kuwa Chris Masazu ni mtovu wa nidhamu. (alama4)

……

……

……

……

……

(e) Eleza maana kulingana na kifungu ya:

(i) Mzo wa shughuli (alama2)

……

……

(ii) ….kutapika wanafunzi wa kike na kiume.

……

……

2. UFUPISHO

Soma makala yafuatayo kasha ujibu maswali:

Mitihani imetumiwa siku nyingi kama kigezo cha kupima werevu wa mwanafunzi katika kutekeleza majukumu ya kiakili yenye kuhitaji stadi mbalimbali. Hii ni njia ya kuaminika na ni rahisi ambayo imetumiwa miaka mingi na watahini kukadiria uwezo wa mtu. Lakini wale wanaopinga mitihani wanasema kuwa mitihani haipimi kwa njia inayoaminika uwezo wa kiakili wa mwanafunzi, badala yake, mitihani inakadiria tu uwezo wa mwanafunzi, wa kukadiria mambo kama kasuku kwa muda mfupi uliojaa vitisho na shinikizo.

Wasioithamini mitihani pia wanadai kuwa mitihani humpa mtahiniwa wasiwasi mwingi. Hii ni kwa sababu hadhi na umuhimu wa mitihani imekuzwa sana miongoni mwa watahiniwa na jamii nzima kwa jumla. Mitihani ndio kigezo pekee kinachokadiria kufaulu au kutofaulu kwa mwanafunzi. Mustakabali wa mwanafunzi kuamuliwa na mtihani. Watahini hawajali sana masuala mengine ambayo yanaweza kuathiri jinsi mwanafunzi anavyoweza kuufanya mtihani. Kwa mfano, mtahiniwa anaweza kuwa mgonjwa, au pengine hakulala vizuri siku iliyotangulia mtihani. Haya yote ni masuala yanayoweza kumfanya mtahiniwa kutofanya vizuri katika mtihani.

Elimu nzuri humfundisha mwanafunzi kutumia akili. Lakini mfumo wa elimu unaopendelea mitihani haufanyi hivyo. Mfumo wa aina hiyo husisitiza kufundisha yale yale yanayopotikana katika mwongozo uliotolewa tu. Mwanafunzi hapewi motisha ili kusoma kwa mapana marefu ili kupanua akili yake. Badala yake mwanafunzi hufungiwa kwenye uwanja finyu ambamo haruhusiwi kutoka. Mwalimu naye kadhalika hana uhuru wa kumfundisha mwanafunzi kile anachofikiria kuwa muhimu katika maisha. Badala yake jukumu kubwa analoachiwa mwalimu huwa ni kumpa mwanafunzi mbinu za kujibu maswali na kupita mtihani.

Ingawa wanaoitetea mitihani hudai kuwa matokeo ya mitihani ni ya kuaminika kwa sababu husahihishwa na watu wasiowajua watahiniwa, lakini ni vizuri pia kukumbuka kuwa watahini ni binadamu tu. Binadamu huchoka, huhisi njaa na zaidi ya yote anaweza kufanya makosa. Licha ya hayo yote, watahini

hutakiwa kusahihisha rundo kumbwa la karatasi, kwa muda mfupi. Mjadala uliopo kati ya wanaopendelea mitihani na wale wasiopendelea watukumbusha kuwa kuna haja kubwa ya kuendelea kuboresha mfumo wa mitihani ili uweze kukadiria kwa yakini uwezo wa kiakili wa mtahiniwa.

a) Fupisha aya ya kwanza na ya pili. (maneno 60)
Matayarisho (alama9)

……

……

……

……

……

……

……

……

……

Nakala Safi.

……

……

……

……

……

……

……

……

……

……

……

……..

b) Fupisha aya ya tatu na ya nne. (maneno 50)
Matayarisho (alama6)

……

……

……

……

……

……

……

……

Nakala Safi.

……

……

……

……

……

……

……

……

3. MATUMIZI YA LUGHA

a) Bainisha aina ya vivumishi katika sentensi hii. (alama2)
Kazi hii itaondoa matatizo mengi.

……

……

b) Eleza tofauti baina ya sentensi hizi.

i) Aliugua vibaya

ii) Aliungua vibaya (alama2)

……

……

……

c) Andika kwa wingi (alama2)

i) Haramia huyo alimpora mlemavu.

……

ii) Mfua chuma alitengeneza zana ya vita.

……

d) Andika katika ukubwa (alamas2)

i) Neno hilo halimo katika kitabu

……

ii) Pakua ugali katika sahani

……

e) Tambulisha <u>kielezi</u>, <u>kivumishi</u> na <u>mnyambuliko wa kitenzi</u> katika sentensi ifuatayo.
Msichana mrembo alikuja upesi akinikimbilia dadake. (alama3)

……

……

……

f) Eleza maana ya misemo ifuatayo. (alama2)

i) Piga ramli

……

ii) Daka maneno

……

g) Changanua sentensi ifuatayo kwa kutumia visanduku.
Twiga hukimbia mbio ingawa ni mrefu. (alama3)

……

……

……

h) Andika sentensi hii upya kwa kufuata maagizo
Nilikuwa nimejitayarisha vizuri kwa hivyo sikuona ugumu wowote katika safari yangu. (alama3)
Anza: Safari ……

……

……

……

i) Andika kinyume cha sentensi hii. (alama1)
Amejitwika mtungi wa maji.

……

j) Unda majina mawili kutokana na maneno yafuatayo. (alama2)

i) Chora ……. …….

ii) La ……. …….

k) Kanusha sentensi zifuatazo. (alama2)

i) Nikisomeshwa Kiswahili nitaelewa.

……

ii) Nikipika chakula, mama hufurahia.

……

l) Tunga sentensi kuonyesha maana mbili za neno <u>otea.</u> (alama2)

……

……

……

m) Ainisha mofimu katika fungi-tenzi hili. (alama2)
Ameshinda

……

……

……

n) Yakinisha (alama2)

i) Siji

……

ii) Halali

……

o) Tunga aina za sentensi zifuatazo. (alama3)

i) Sahili

……

ii) Ambatano

……

iii) Changamano

……

p) Andika katika usemi halisi
Nyumba hiyo ingejengwa vyema isingebomoka. (alama2)

……

……

q) Tunga sentensi kubainisha matumizi yafuatayo ya "ki" (alama2)

(a) Masharti

……

(b) Kitendo, kuendelea kwa muda

……

r) Tumia mzizi – zea katika sentensi kama (alama2)

i) Nomino

……

ii) Kivumishi

……

s) Eleza maana ya: (alama2)

i) Ugonezi

……

……

ii) Sapa

……

……

4. ISIMU JAMII
Soma kifungu kifuatacho kisha ujibu maswali.

MWALI : Sidhani buda ataniwahi hiyo cargo. Siku hizi amekuwa muhard sana na fulusi.
KIMATA: We nawe Maxe siku zote chapa. Kwani umeanzisha factory ya mifegi naona kinywa hakiishi kufusha misteam.
MWALI : Sikiliza bratha. Mimi sitaki mizomo. Unaanza kuleta noma. Masa akikusikia aanze kuleta drama zake za twenty four seven. Utakuja kuni……
KIMATA : Shii! Ndo huyo dad. Nenda kajaribu lock yao. Huenda akakulisten. Mimi nilimwambia aningetie chapa ya kwenda kudufu akanishow hana.
MWALI: Acha basi nijaribu japo sina hope. Juzi alianza kunitolea mapreaching yake ya every day (akiiga). "Mwanangu, ni muhimu kusoma kwa bidii ili uweze kujitegemea.Kumbuka mtegemea cha nduguye hufa maskini."

a) Taja muktadha wa mazungumzo haya. (alama2)

……

……

b) Andika sifa tatu za lugha inayohusika katika mazungumzo haya. (alama3)

……

……

……

c) Fafanua sababu zinazopelekea watu kubadili na kuchanganya msimbo/ ndimi. (alama5)

……

……

……

……

……

……

walimuepublishers@gmail.com

KCSE POSTMOCKS

Hati ya Kuhitimu Elimu ya Sekondari Kenya

102/3

KISWAHILI

KARATASI YA 3

FASIHI

1.SEHEMU A: USHAIRI (LAZIMA)

Eti
Mimi niondoke hapa
Niondoke hapa kwangu
Nimesaki, licha ya risasi
Vitisho na mauaji, siondoki

Mimi
Siondoki
Siondoki siondoki
Niondoke hapa kwangu!
Kwa mateke hata na mikuki
Marungu na bunduki, siondoki

Hapa
Siondoki
Mimi ni Pahame!
Niondoke hapa kwangu!
Fujo na ghasia zikizuka
Na kani ya waporaji, siondoki

Haki
Siondoki
Kwangu siondoki
Niondoke hapa kwangu!
Nawaje; waje wanaokuja
Mabepari wadhalimu, siondoki

Kamwe
Siondoki
Ng'oo hapa kwangu!
Katizame chini mti ule!
Walizikwa babu zangu, siondoki

Sendi
Nende wapi?
Si hapa kitovu changu
Niondoke hapa kwangu
Wangawa na vijikaratasi

Si kwamba hapa si kwangu, siondoki

Katu
Siondoki
Sihitaji karatasi
Niondoke hapa kwangu
Yangu mimi ni ardhi hii
Wala si makaratasi, siondoki

Maswali

a) Shairi hili ni la aina gani? Kwa nini (alama 2)

b) Taja masaibu anayopitia mzungumzaji (alama 4)

c) Eleza toni ya shairi hili (alama 2)

d) Eleza muundo wa shairi hili (alama 3)

e) Tambua matumizi ya mbinu ya usambamba (alama 2)

f) Andika ubeti wa tano kwa lugha nathari (alama 4)
g) Tambua idhini moja ya mtunzi (alama 1)
h) Eleza maana ya maneno yafuatayo kama yalivyotumika katika shairi (alama 3)
(i) Karatasi
(ii) Nimesaki
(iii)kitovu

2<u>SEHEMU B TAMTHILIA YA KIGOGO</u>

2.Uliona nini kwa huyo zebe wako ? Eti mapenzi!
a. Eleza muktadha wa dondoo. (al. 4)
b. Andika mbinu za lugha zinazojitokeza kwenye dondoo hili (al. 4)
c. Taja hulka za mnenaji unajitokeza katika dondoo. (al. 2)
d. Mwanamke ni kiumbe wa kukandamizwa. Thibitisha kauli hii ukirekjelea tamthilia. (al. 10)

3.wa kurejelea tamthlia ya 'Kigogo ya Pauline Kea, onyesha jinsi ambavyo viongozi wengi katika nchi za kiafrika wamejawa na tamaa. (alama 20)

SEHEMUC.RIWAYA YA CHOZI LA HERI(ASSUMPTA MATEI)

4.“ Kwa kweli ni hali ngumu hii”
Weka dondoo katika muktadha wake. (alama4)
Ni hali gani yamsemewa inayorejelewa kwenye dondoo. (alama16)

5) Ukabila ni tatizo sugu katika nchi nyingi za Kiafrika. Tetea kauli hii ukilejelea Chozi la Heri (al. 20)

Alifa Chokocho na Dumu Kayanda: Tumbo Lisiloshiba na Hadithi nyingine

jibu swali la 6 au la 7

6.Ukirejelea hadithi zifuatazo, eleza jinsi maudhui ya mapenzi na asasi ya ndoa yanavyojitokeza.
(alama20

a) Mapenzi ya kifaurongo
b) Masharti ya kisasa
c) Ndoto ya Mashaka
d) Mtihani wa maisha
Au

Shibe inatumaliza : Salma Omar Hamad

7."Hiyo ni dharau ndugu yangu. Kwa nini kila siku tunakula sisi kwa niaba ya wengine ?"

a) Eleza muktadha wa dondoo hili. (alama 4)
b)Eleza sifa za msemaji. (alama 6)
c) Eleza jinsi viongozi wanavyokuwa wabadhirifu. (alama 10)

SEHEMU YA E: FASIHI SIMULIZI

8a) Fafanua mchakato/fomula ya uwasilishaji wa vitendawili. (alama4)
b) Linganisha naulinganue vitendawili na methali. (alama10)
c) Toa sababu sita za kudidimia kwa fasihi simulizi. (alama6)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education (KCSE)

MATHEMATICS

PAPER 1

TIME: 2½ HOURS

SECTION 1: (50 MARKS)

Answer ALL Questions in this section

1. The marked price of a car in a dealer's shop was Ksh. 450,000/=. Nasieku bought the car at 7% discount. The dealer still made a profit of 13%. Calculate the amount of money the dealer had paid for the car.

(3marks)

2. Evaluate:
(3mks)

$$\frac{\frac{1}{2} + 2\frac{4}{5} \text{ of } 8 \div 6(2 \times 4\frac{2}{5})}{\frac{2}{4} \text{ of } 6(8 \div 3\frac{1}{3})}$$

3. A man was born in 1956. His father was born in 1928 and the mother three years later. If the man's daughter was born in 1992 and the son 5 years earlier, find the difference between the age of the man's mother and that of his son.
   (3mks)

4. Solve for x in the equation:
   $\log_8(x + 6) - \log_8 (x - 3) = {}^1/_3$
   (3mks)

5. Solve the simultaneous equations:
   $\frac{x}{2} + \frac{y}{3} = \frac{-13}{6}$, $\frac{2y}{3} - x = 11$
   (4mks)

6. Simplify: $\frac{12x^2 - 27}{4 - (2x + 1)}$
   (3mks)

7. Find the angle the line $3y = 2x + 6$ makes with the x-axis.
   (3mks)

8. The curved surface area of a cylindrical container is $880cm^2$. Calculate to one decimal place the capacity of the container in litres given that the height is 17.5cm. (Take $\pi = {}^{22}/_{7}$).

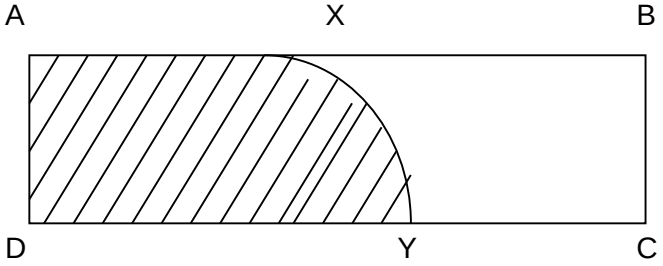
9. State all the integral values of a which satisfy the inequality $\frac{3a + 2}{4} \leq \frac{2a + 3}{5} \leq \frac{4a + 15}{6}$
   (4mks)

10. Line L_1 passes through the points A (1, -2) and B(3, -4). Find the equation of the line L_2 passing through the mid-point of AB and perpendicular to L_1, leaving your answer in the form ax + by + c = 0.
(4mks)

11. 1.5 litres of water (density 1g/cm^3) is added to 5 litres of alcohol (density 0.8g/cm^3). Calculate the density of the mixture.
(3mks)

12. A map of a certain town is drawn to a scale of 1:50,000 on the map, the railway quarters cover an area of 10cm^2. Find the area of the railway quarters in hectares.
(2mks)

13. ABCD is a rectangle. AB = 10cm, AD = AX = 6cm and XY is an arc of a circle centre D.



Calculate the area of the shaded region. (Take π= 3.142)
(3mks)

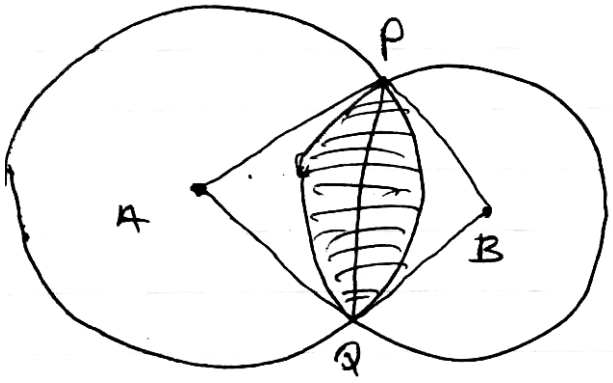
14. If cos $\propto = \frac{15}{17}$, find without using tables or calculators sin $\propto$ and tan $\propto$.
(3mks)

15. Express 1.441441 ..... in the form p/q where p and q are integers. (q # o)
(3mks)

16. Leonorah Jerop was on top of a cliff 30m high sees two boats P and Q out at sea. Both boats were in the same line and the angle of depression from Leonorah to P was 42^0 and the angle of depression from Leonorah to Q was 27^0. Calculate the distance then between the two boats.
(3mks)

SECTION II (50 MARKS)
Answer any five questions in this section

17. The figure below shows two circles of radii 10.5cm and 8.4cm and with centres A and B respectively. The common chord PQ is 9cm.



(a) Calculate angle PAQ.
(2mks)

(b) Calculate angle PBQ.
(2mks)

(c) Calculate the area of the shaded part.
(6mks)

18. Every Sunday Barmao drives a distance of 80km on a bearing of 074^0 to pick up her sister Afandi to go to church. The church is 75km from Afandi's home on bearing of $S50^0E$. After church they drive a distance of 100km on a bearing of 260^0 to check on their friend Akoth before Barmao drives to Afandi's home to drop her off then proceed to her house.

(a) Using a scale of 1cm to represent 10km, show the relative positions of these places.
(4mks)

(b) Use your diagram to determine:

(i) The true bearing of Barmao's home from Akoth's house.
(1mk)

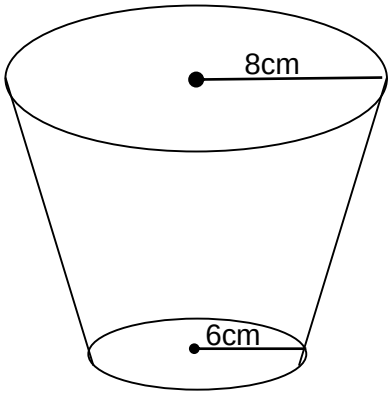
(ii) The compass bearing of the Akoth's home from Afandi's home.
(1mk)

(c) (i) The distance between Afandi's home and Akoth's home.
(2mks)

(ii) The total distance Barmao travel every Sunday.
(2mks)

19. The vertices of triangle PQR are P(O,O), Q(6,0) and R(2,4).
(a) Draw triangle PQR on the grid provided.
(1mk)
(b) Triangle P'Q'R' is the image of a triangle PQR under an enlargement scale factor, ½ and centre (2,2). Write down the co-ordinates of triangle P'Q'R' and plot on the same grid.
(2mks)
(c) Draw triangle P"Q"R" the image of triangle P'Q'R' under a positive quarter turn, about points (1,1)
(3mks)
(d) Draw triangle P"'Q"'R"' the image of triangle P"Q"R" under reflection in the line y = 1.
(2mks)
(e) Describe fully a single transformation that maps triangle P"'Q"'R"' onto P'Q'R'.
(2mks)

20. A pail is in the shape of a container frustrum with base radius 6cm and top radius 8cm. The slant height of the pail is 30cm as shown below. The pail is full of water.



(a) Calculate the volume of water.
(6mks)

(b) All the water is poured into a cylindrical container of circular radius 7cm, if the cylinder has the height of 35cm, calculate the surface area of the cylinder which is not in contact with water.
(4mks)

21. (a) A bus travelling at 99km/hr passes a check-point at 10.00a.m. and a matatu travelling at 132km/h in the same direction passes through the check point at 10.15a.m. If the bus and the matatu continue at their uniform speeds, find the time the matatu will overtake the bus.
(6mks)

(b) Two passenger trains A and B which are 240m apart and travelling in opposite directions at 164km/h and 88km/h respectively approach one another on a straight railway line. Train A is 150 metres long and train B is 100 metres long. Determine time in seconds that elapses before the two trains completely pass each other.
(4mks)

22. (a) Solve the equation: $\frac{x + 3}{24} = \frac{1}{x - 2}$
(4mks)

(b) A rectangular room is 4m longer than its width. If its area is $12m^2$, find its dimensions and hence the perimeter of the room.
(6mks)

23. Using a ruler and a pair of compasses only, construct triangle ABC, such that AB = 5cm, BC = 6cm and AC = 6.4cm. Locate the locus of P such that it is equidistant from the sides AB, BC and AC. Measure the shortest distance, r between side AB and the centre P using length r and centre P. Draw a circle. Measure CP.
(10mks)

24. QRST is a rhombus. The equations of QR, RS and TS are $2x + y = 7$, $x = 1$ and $2x + y = -1$ respectively. Determine:-
(a) The co-ordinates of Q and S.
(4mks)

(b) The co-ordinates of m, the point of intersection of the diagonals.
(2mks)

(c) The co-ordinates of R and T.
(4mks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education (KCSE)

MATHEMATICS

PAPER 2

TIME: 2½ HOURS

SECTION 1: (50 MARKS)

Answer ALL Questions in this section

1. Using logarithms, evaluate
(4mks)

$$\sqrt[3]{\frac{4.684 \log 314.2}{\tan 87^0}}$$

2. Make x the subject of the formula:
(3mks)

$$A = \sqrt{\frac{1-x}{1+x}}$$

3. A surveyor gave the length and width of a rectangular plot as 80m and 55m respectively. Find his percentage error in the area of the rectangular plot.
(3mks)

4. Find the radius and centre of the circle whose equations is $2x^2 + 2y^2 – 6x + 10y + 9 = 0$.
   (4mks)

5. Simplify: $\frac{2}{2\sqrt{3} + \sqrt{2}} - \frac{2}{2\sqrt{3} – \sqrt{2}}$
   Giving your answer in surd form with a rational denominator.
   (3mks)

6. Expand $\left(x + \frac{a}{x^2}\right)^6$ in descending powers of x up to the term independent of x. If this independent term is 1215, find the value of a.
(4mks)

7. The sum of Shs. 50,000 is invested in a financial institution that gives 12%p.a. The interest is compounded quarterly. Find the total investment after 3 years.
(3mks)

8. If $\frac{p + 3q}{2p - q} = \frac{3}{4}$ find the ratio p : q.
(3mks)

9. The angles of a triangle are in the ratio 8 : 7 : 3. If the longest side of the triangle is 5.4cm. Calculate the length of the shortest side.
   (3mks)

10. Solve for k in the following equation:
    $125^{k+1} + 5^{3k} = 630$
    (3mks)

11. Six men take 28 days working for 10 hours a day to pack 4480 parcels. How many more men working 8 hours a day will be required to pack 2500 parcels in 4 days?
    (3mks)

12. A bird flies from its nest to some food in three stages. The routes are described by the following vectors.

$$\begin{pmatrix} 3 \\ \\ \end{pmatrix} \quad \begin{pmatrix} 7 \\ \\ \end{pmatrix} \text{ and } \begin{pmatrix} 4 \\ \\ \end{pmatrix}$$

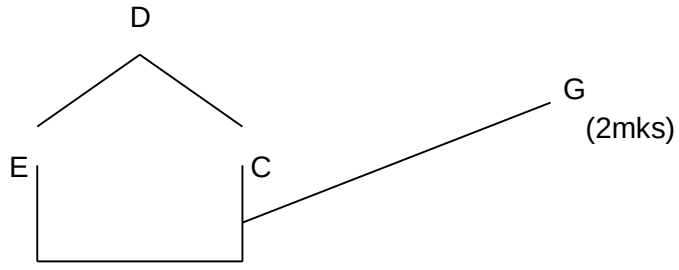
$$\begin{pmatrix} -2 \\ -1 \end{pmatrix}, \begin{pmatrix} 10 \\ 5 \end{pmatrix} \text{ and } \begin{pmatrix} -2 \\ -7 \end{pmatrix}$$

Find the distance between the bird's nest and where the food is.
(3mks)

13. The size of an interior angle of a regular polygon is $3x^0$ while exterior is $(x - 20)^0$. Find the number of sides of the polygon.
(3mks)

14. In what ratio must "Murang'a" coffee costing sh. 25g per 100g be mixed with "Kisii" coffee costing sh. 17.50 per 100g, so that by selling the mixture at sh. 25 per 100g, a profit of 25% is made?
(3mks)

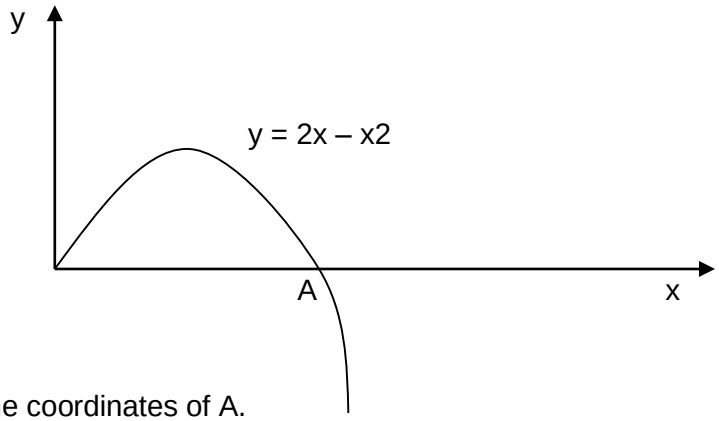
15. In the figure below, ABCDE is a cross-section of a solid. The solid has a uniform cross-section. Given that BG is a base edge of the solid, complete the sketch, showing the hidden edges with broken lines.



(2mks)

A B

16.



Find the coordinates of A.
(3mks)

SECTION II (50 MARKS)
Answer any five questions in this section

17. Mr. Chesingei earned an annual basic salary of Kenya pounds 12360 when the rates of taxation were as in the table below.

Monthly income (pounds)	Rates (%)
1 – 484	10
485 – 940	15
941 – 1396	20
1397 – 1852	25
1853 and above	30

Apart from the basic salary, he is entitled to a house allowance of Kshs. 12,000 and medical allowance of Kshs. 6,000 per month.

(a) Calculate Chesingei's monthly taxable income in Kenya pounds.
(3mks)

(b) Calculate Chesinge's monthly net income if he is given a tax relief of Ksh. 980 per month. Give your answer in Kenyan shillings.
(5mks)

(c) How much more tax should he have paid per month in Kenya pounds if his monthly salary is increased by Ksh. 2500.
(2mks)

18. The table below shows the distribution of marks scored by 100 candidates of Cheptiret Boys High school in an examination.

Marks	1– 10	11 – 20	21 – 30	31 – 40	41–50	51–60	61–70	71–80	81–90	91–100
No. of candidates	2	5	8	19	24	18	10	6	5	3

(a) Draw a cumulative frequency curve to illustrate the information above.
(4mks)

(b) From your graph, find:

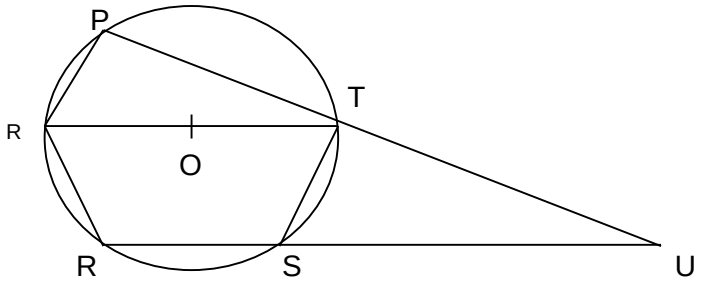
(i) Median

(2mks)

(ii) Inter-quartile range
(2mks)

(iii) Pass mark if 70% of the students passed.
(2mks)

19. The figure below shows a circle centre O in which QOT is a diameter. <QTP = 46^0, TQR = 75^0 and SRT = 38^0, PTU and RSU are straight lines.



Calculate the following angles giving a reason in each case.

(a) <RST
(2mks)

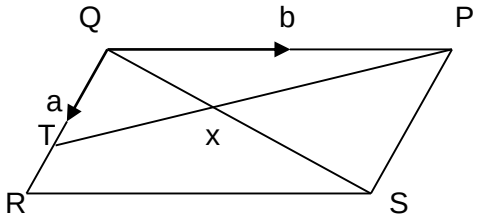
(b) <SUT
(2mks)

(c) <PST
(2mks)

(d) Obtuse <ROT
(2mks)

(e) <SQT
(2mks)

20. In the figure below, QT = a and QP = b.



(f) Express the vector PT in terms of a and b.
(1mk)

(g) If PX = kPT, express QX in terms of a, b and k, where k is a scalar.
(3mks)

(h) If QR = 3a and RS = 2b, write down an expression for QS in terms of a and b.
(1mk)

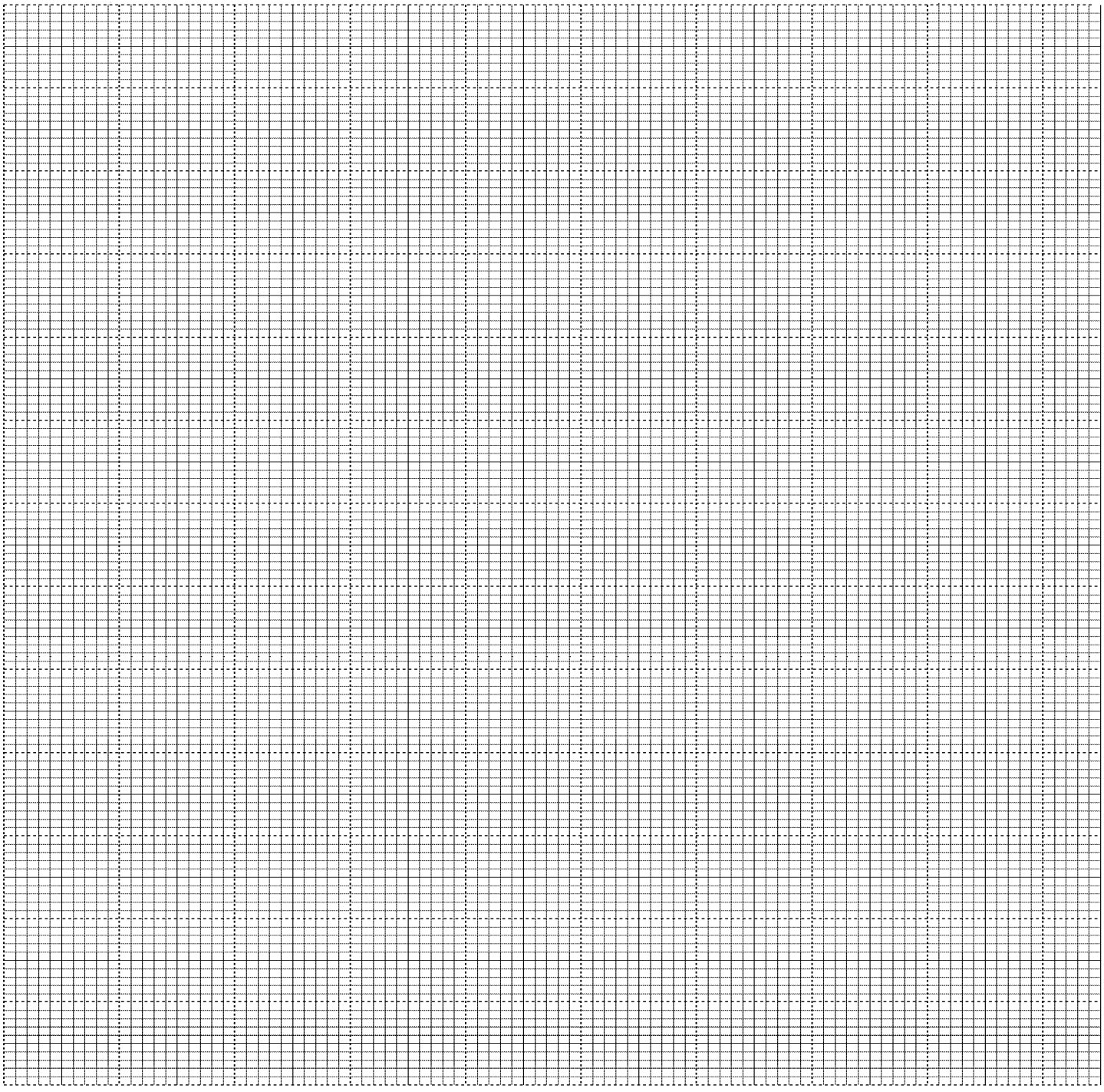
(i) If QX = tQS, use your result in (b) and (c) to find the value of k and t.
(4mks)

(j) Find the ratio PX : XT.
(1mk)

21. The law $E = KX^n$ gives an expression for the energy E joules stored in a spring for the extension xcm. The table below shows the value of E and the corresponding value of X.

xcm	2	2.5	3	3.5	4	5
E (joules)	108	169	243	330	432	675

Determine graphically the values of k and n. Write the equation connecting E and X. (10mks)



22. The first term of an Arithmetic Progression (AP) is 200. The sum of the first 10 terms of AP is 24500.

(a) (i) Find the common difference.
(2mks)

(ii) Given that the sum of the first n terms of the AP is 80100, find n.
(2mks)

(b) The 3rd, 5th and 8th terms of another AP, form the first three terms of a Geometric Progression (GP). If the common difference of AP is 5, find:-

(i) The first term of the GP.
(4mks)

(ii) The sum of the first 12 terms of the GP, to four significant figures.
(2mks)

23. (a) Fill the table below, giving the values correct to 2 decimal places.
(3mks)

x^0	0	30	60	90	120	150	180	210	240	270	300	330	360
Sin2x													
3cosx-2													

(b) On the grid provided, draw the graphs of $y = \sin 2x$ and $y = 3\cos x - 2$ of $0^0 \leq x \leq 360^0$; on the same axes. Use the scale of 1cm to represent 30^0 on the x-axis and 2cm to represent 1 unit on the y-axis.
(5mks)

(c) Use the graph in (b) above to solve the equation:
$3 \cos x - \sin 2x = 2$

24. The probabilities of Makori, Newton and Patrick going to school on Monday are $^{6}/_{7}$, $^{7}/_{8}$ and $^{8}/_{9}$ respectively. Find the probability that:-

(a) They will all go to school on Monday.
(2mks)

(b) None of them will go to school on Monday.
(2mks)

(c) At least one of them will go to school on Monday.
(3mks)

(d) At most one of them will go to school on Monday.
(3mks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education (KCSE)

PHYSICS

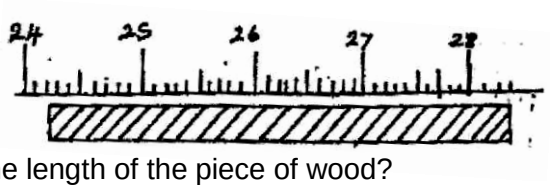
PAPER 1

TIME: 2 HOURS

SECTION A (25 MARKS)

Answer ALL questions in this section in the spaces provided

1. The diagram below shows a piece of wood whose length is being measured using a strip of measuring tape.



What is the length of the piece of wood?

(1mk)

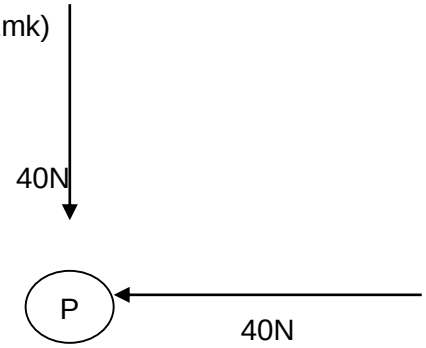
……

……

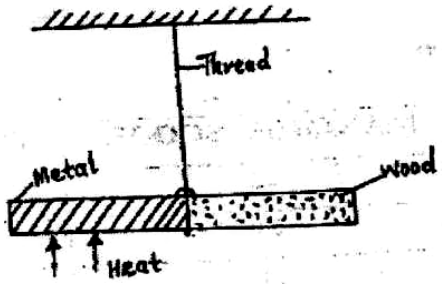
……..

2. The figure below shows two forces acting on an object P. Complete the diagram to show the direction in which P would move.

(1mk)



3. The figure below shows a rod made of wood on one end and metal on the other end. It is suspended freely with a piece of thread so that it is in equilibrium.



The side made of metal is now heated with a Bunsen flame and the rod tips to the left. Explain. (2mks)

……

……

……

……

……..

4. Explain why a high jumper flexes his knees when landing on the ground.
(2mks)

……

…….

……

……

……..

5. State **one** way of making the surface tension of a liquid stronger.
(2mks)

……

…….

6. (a) What do you understand by the term upper fixed point of a thermometer?
(1mk)

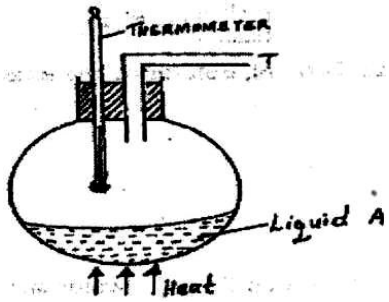
……

…….

……

…….

i. The diagram below shows an arrangement used to determine the upper fixed point of ungraduated thermometer.



1. Name liquid A.
   (1mk)
   ……
   …

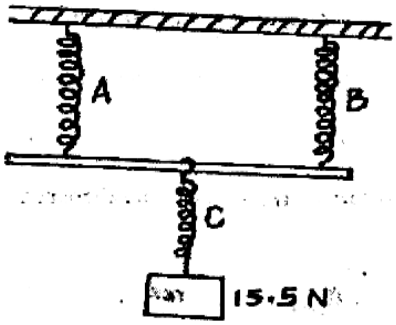
2. Why is the bulb of thermometer not dipped in liquid A?
   (1mk)
   ……
   ……
   ……

7. Two iron bars A and B with the same cross section area stand on a horizontal table as shown.

State and explain which of the bars is more stable.
(2mks)
……
…….
……
…….
……
…….

8. The pressure in a moving fluid varies with speed of the fluid. Explain.
(2mks)
……
…….
……
…….
……
…….

9. Three identical springs A, B and C are used to support a 15.5N weight as shown below.



If the weight of the horizontal beam is 0.5N, determine the extension of each spring given that 4N causes an extension of 1cm. (Assume the weight of the springs is negligible).

(3mks)

……

…….

……

…….

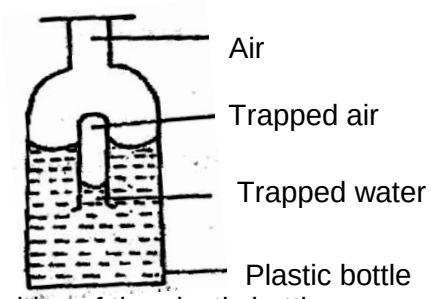
……

…….

……

…….

10. The figure below shows an inverted test tube which floats in water enclosed in a plastic bottle.



When the sides of the plastic bottle are squeezed, explain what would be observed.

(3mks)

……

…….

……

…….

……

…….

……

…….

11. A liquid at a temperature of 70^0C was poured into a calorimeter containing pure ice. The whole ice was melted and the mixture attained a final temperature, θ.

Write down an expression for the final temperature explaining any symbols used.

(3mks)

……

…….

……

…….

……

…….

……

…….

12. A liquid at 80^0C in a cup was allowed to cool for 20 minutes. State **two** factors that determine the final temperature.

(2mks)

……

…….

……

…….

SECTION B (55 MARKS)

13. (a) Two identical containers A and B are placed on a bench, container A is filled with oxygen gas and B with hydrogen gas such that the two gases have equal masses. If the containers are maintained at the same temperature, state with a reason the container whose pressure is higher.

(3mks)

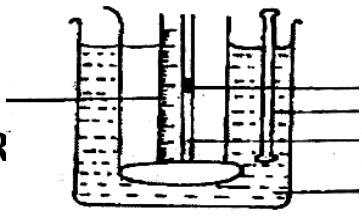
……

……

……

……

i. The figure below shows a set-up of an experiment used to investigate Charles' law.

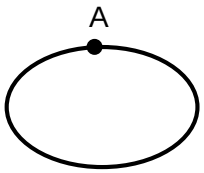


1. Name the parts labeled X and Z.
   (2mks)
   X:……..
   Z:……..
2. State the measurements to be taken in this experiment.
   (2mks)
   ……
   ……
   ……
3. Explain how the reading taken in (ii) above may be used to investigate Charles law.
   (2mks)
   ……
   ……
   ……
   ……..
4. State the **two** purposes of mercury index.
   (2mks)
   ……
   ……
   ……
5. A constant mass of hydrogen gas occupies a volume of $4.0cm^3$ at a pressure of 2.4×10^5 Pa and temperature of 15^0C. Find its volume at a pressure of 1.6 x 105 Pa when the temperature is 20^0C.
   (3mks)
   ……
   ……
   ……
   ……
   ……

14. (a) (i) The figure below shows a ball being whirled in a clockwise direction in vertical plane. Sketch on the

figure the path followed by the ball if the strings cuts when the ball is at position A.

(1mk)



(ii) A body having uniform motion in a circular path is always accelerating. Explain.

(1mk)

……

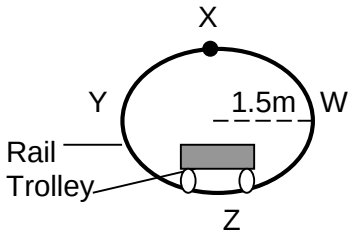
……

……

i. The figure below shows a trolley moving on a circular rail in a vertical plane. Given that the mass of the trolley is 200g and the radius of he rail is 1.4m:

1. Determine the minimum velocity at which trolley passes point X.

(3mks)



2. If the trolley moves with a velocity of 4m/s as it passes point Z, find:

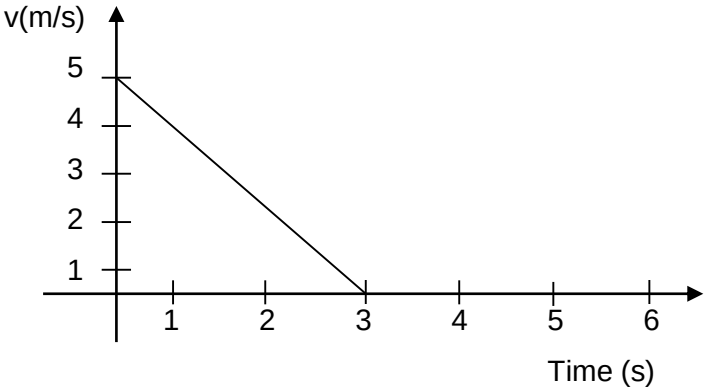
i. Angular velocity at this point.

(3mks)

ii. The force exerted on the rails at this point.
(3mks)

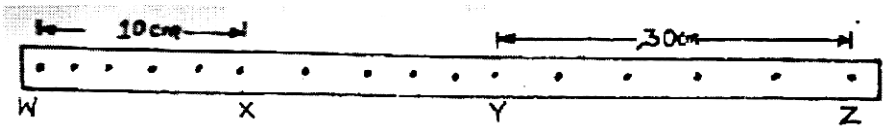
15. (a) Distinguish between velocity and speed.
(1mk)
……
……
……

i. The velocity – time graph in the figure below illustrates the motion of a ball which has been projected vertically from the surface of a planet. The weight of the ball on earth is 30N.



Determine the weight of a ball on the planet.
(3mks)

ii. The figure below shows a section of a tape from a ten-tick' timer whose frequency is 50Hz.



Calculate:-

1. The average velocity of he trolley between points:
(2mks)

WX

YZ

2. The acceleration of the trolley.
(3mks)

16. (a) State the law of floatation.
(1mk)

……

……

……

i. A body weighs 40N in air, 30N when in water and 35N when in liquid X. Find the relative density of liquid X.
(3mks)

……

……

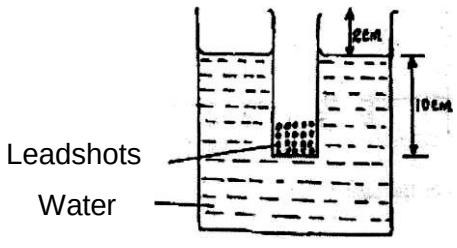
……

……

……

……

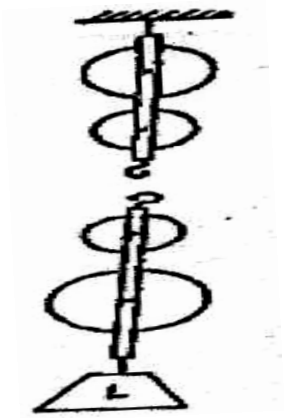
ii. A simple hydrometer is set up with a test-tube of mass 10g and length 12cm with a flat base and partly filled with lead shorts. The test tube has a uniform Cross-sectional area 2.0cm^2 and 10cm of its length is under water as shown in the figure below.



1. Taking the density of water as 1000kg/m^3, calculate the mass of the lead shots in the tube.(3mks)

2. The mass of the lead shorts to be added if it has to displace an equal volume of a liquid of density 1.25g/cm^3.
   (3mks)

17. The pulley system in the diagram has two wheels in each block.



(a) Complete the diagram to show the string as the pulley is being used to lift the load L.

(b) The block and tackle pulley system is used to investigate relationship between mechanical advantage and efficiency.

1. State the measurements to be taken in this investigation.
   (2mks)

……

……

……

……

2. In the axes below sketch a graph of efficiency against load.

(2mks)

3. A block and tackle pulley system with a velocity ratio of 5 and 60% efficiency is used to lift a load of mass 60kg through a vertical height of 2 metres. Calculate the work done by the effort.

(4mks)

walimuepublishers@gmail.com

KCSE POSTMOCKS

Kenya Certificate of Secondary Education (KCSE)

PHYSICS

PAPER 2

TIME: 2 HOURS

SECTION A (25 MARKS)
Answer ALL questions in this section in the spaces provided

1. The figure 1 below shows the image behind a mirror M.

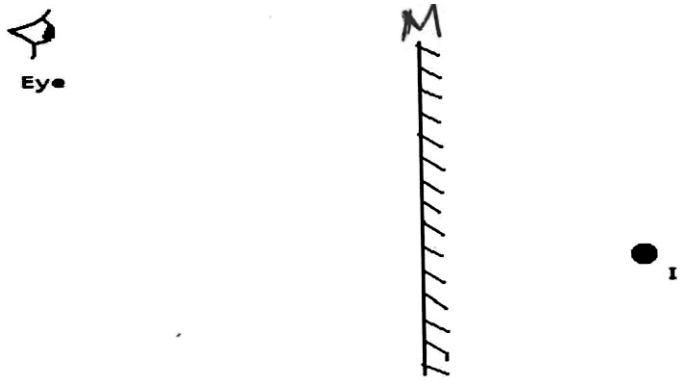


Fig. 1

By ray diagram construction, locate the position of the object.

(2mks)

2. A negatively charged rod is brought near the cap of a leaf electroscope. The cap is then earthed momentarily by touching with finger. Finally the rod is withdrawn. Sate and explain the observation made.

(2mks)

3. A boy observes his face in a concave mirror of focal length 100cm. If the mirror is 80cm away, state **one** characteristic of the image observed.

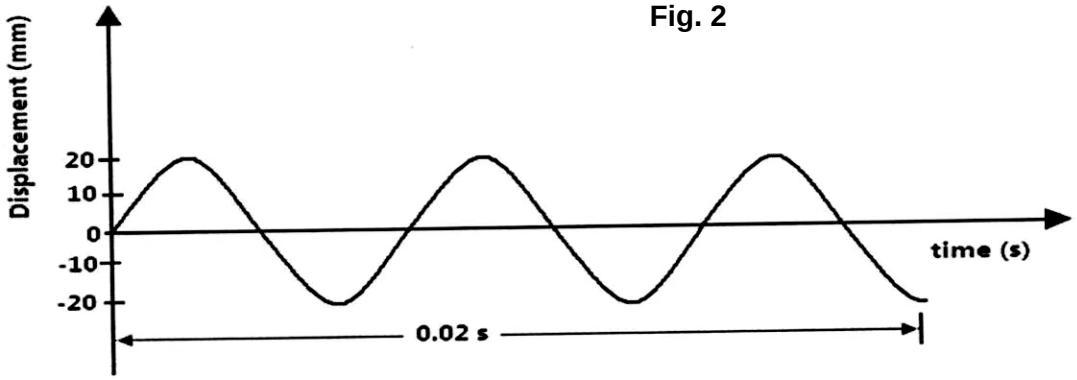
(1mk)

4. The coil of an electric motor is usually wound on a soft iron armature. State **two** purposes of this armature.
(2mks)

5. A student stands at a distance 400m from a wall and claps two pieces of wood. After the first clap, the student claps whenever an echo is heard from the wall. Another student starts a stopwatch at the first clap and stops it after the twentieth clap. The stopwatch records a time of 50 seconds. Find the speed of sound.
(3mks)

6. The figure 2 below shows a displacement time graph for a wave motion.

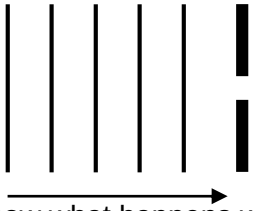
Fig. 2



What is the frequency of the wave?
(2mks)

7. The figure 3 below shows a series of wave fronts one wavelength apart approaching a gap between barriers in ripple tank.

Figure 3



On the same diagram, show what happens when the waves pass through the gap.

(1mk)

8. In figure 4 shown below (not drawn to scale), sketch the path of a ray till it emerges from the prism.

(2mks)

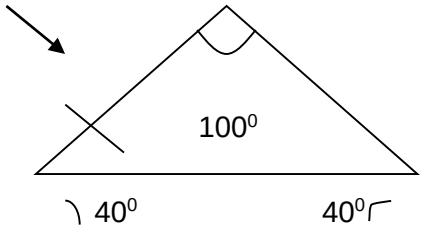


Fig. 4

9. A bulb is rated 100W, 240V. At what rate would it dissipate energy if it is connected to a 220V supply?

(3mks)

10. One method of producing a weak magnet is to hold a steel rod in the North South direction and then hammer it continuously for some time. Using the domain theory of magnetism, explain how this method works.

(2mks)

11. Figure 5 shows a motor connected to a magnetic switch called a relay opened by an ordinary switch S_1. Use the information in the figure to answer questions that follow.

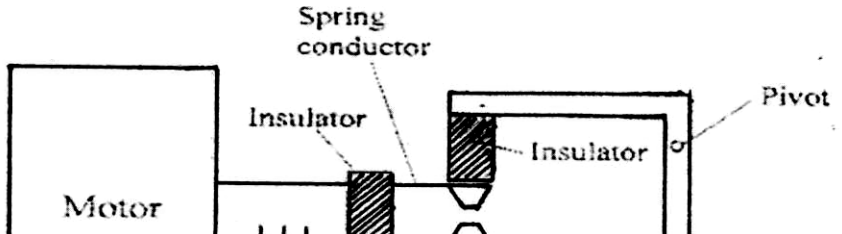


Fig. 5

(i) Explain how the relay switches on the motor when S_1 is closed.
(3mks)

(ii) State with a reason the effect on the motor if the iron core is replaced with a steel core and switch S_1 is put on and then off.
(2mks)

SECTION B (55 MARKS)

12. (a) State Ohms law.
(1mk)

(b) Three resistors 1Ω, 3Ω and 5Ω are connected together in a circuit. Draw a circuit diagram to show an arrangement that would give minimum resistance and determine that resistance.
(3mks)

(c) The cell in the figure 6 below has an e.m.f. of 1.8V and negligible internal resistance.

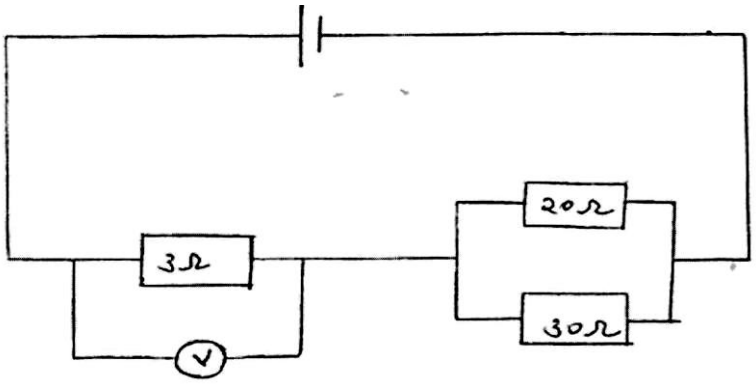


Fig. 6

Determine:-

(i) Total resistance in the circuit.
(3mks)

(ii) The current in the circuit.
(2mks)

(iii) Reading of the voltmeter.
(2mks)

13. (a) State **two** factors that affect the capacitance of a parallel plate capacitor. `
(2mks)

(b) The diagram below shows an arrangement of capacitors in a circuit.

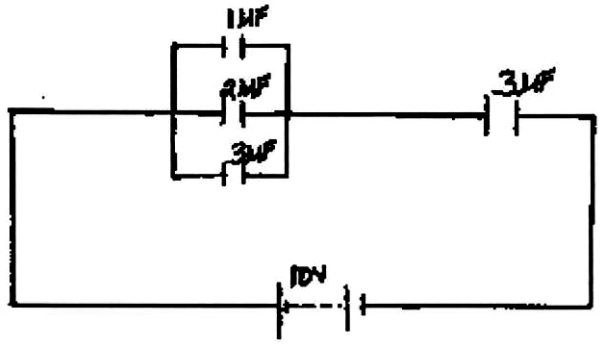


Fig. 7

Determine:-

(i) The total capacitance

(3mks)

(ii) The total charge

(3mks)

(iii) The energy stored by the 2μF capacitor.

(3mks)

14. (a) The figure 8 below shows how rays from a distant and near objects are focused inside a human eye with a certain defect.

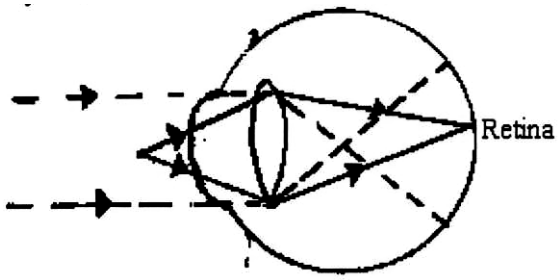


Fig. 8

(i) Name the defect.

(1mk)

(ii) State **two** causes f the defect.

(2mks)

(iii) Suggest a corrective measure to the defect.

(1mk)

(b) The figure below shows an object O placed in front of an objective lens L_o whose focal length f_o is less than f_e, the focal length of the eyepiece L_e. Complete using ray construction how the arrangement would produce a compound microscope.

(3mks)

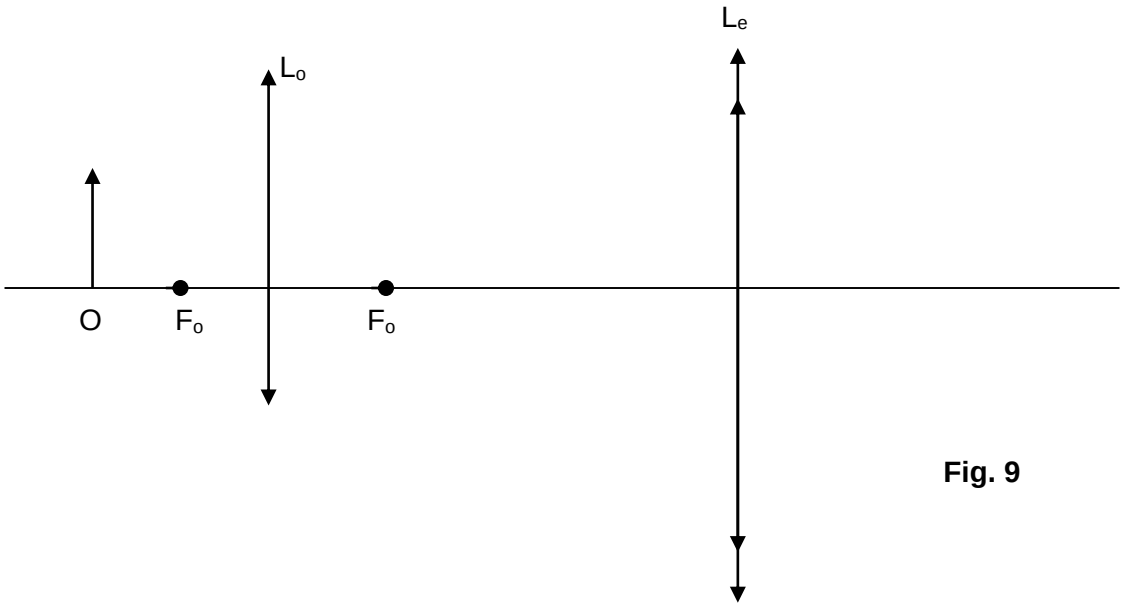


Fig. 9

(c) An object of height 10cm is placed in front of a diverging lens of focal length 25cm and at a distance of 20cm from the lens. Calculate the height of the image formed.

(4mks)

15. (a) State the laws of refraction.
(2mks)

(b) When does total internal reflection occur?
(2mks)

(c) The figure 10 below represents a ray of light falling normally on the curved surface of a semi-circular glass block A at an angle of 32^0 at O and emerging into air at an angle of 48^0.

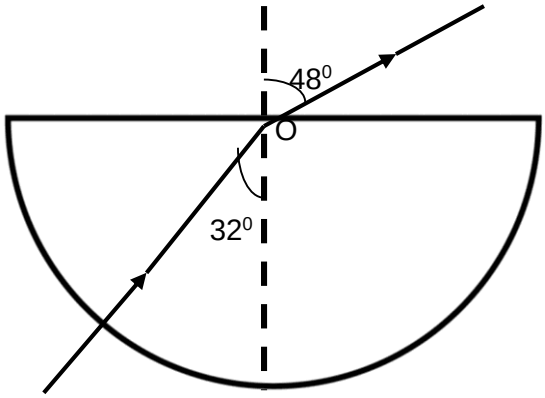


Fig. 10

Calculate the absolute refractive index of the glass of which the block is made. (Assume air is a vacuum).

(d) Explain why sound is audible at night than during the day.
(1mk)

16. (a) State Lenz's law of electromagnetic induction.
(1mk)

(b) In the figure 11 below the bar magnet is moved into the coil.

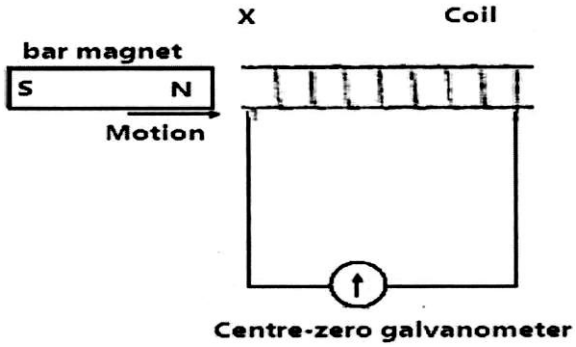


Fig. 11

(i) State and explain what is observed in the galvanometer.
(2mks)

(ii) Explain briefly the source of an electrical energy in the circuit.
(2mks)

(c) State any **two** ways in which power is lost from the transformer and explain how each loss is minimized.

(2mks)

(d) A transformer is used to provide a potential difference of 100KV to an X-ray tube from 250V a.c mains supply. A current of 100mA flows in ht X-ray tube and the transformer is 100% efficient. Calculate:-

(i) The ratio of the number of turns of the secondary coil to the number of turns in the primary coil.

(3mks)

(ii) The current in the primary coil.

(2mks)

(iii) State giving reasons which of the coils of the transformer is thinner.

(2mks)