

KCSE 2023 MOCKS

ALL SUBJECTS

*First Cycle of Joint Examination Trial amongst selected High Schools
administered to the current KCSE 2023 Candidates.*

All the Best to our KCSE 2023 Candidates.



SUBJECTS TESTED;

*Mathematics, English, Kiswahili, Biology, Chemistry, Physics, CRE, Geography, History,
Business Studies, IRE, Home-science, Agriculture, Computer Studies, Power Mechanics
and Electricity.*

SERIES 1

For Marking Schemes

Mr Isaboke 0746-222-000 / 0742-999-000

MWALIMU CONSULTANCY

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

313/1

Christian Religious Education

Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) *This paper consists of **six** questions.*
- b) *Answer **ANY** five questions in the sheets provided.*
- c) *The candidate should check the question paper to ascertain that the pages are printed as indicated and that no questions are missing.*
- d) *Each question contains 20 marks*
- e) *Candidates should answer the questions in English.*

FOR EXAMINERS USE ONLY

QUESTION	1	2	3	4	5	6	TOTAL
SCORE							

Answer ANY five questions

1. a. Give **seven** reasons why C.R.E as a subject is incorporated into curriculum in Kenyan schools today. (7marks)
- b. Give ways through which the study of CRE builds our relationship with GOD (6marks)
- c. **Describe** the translation of the Bible from the original languages to Kenyan languages. (7marks)
- 2a. **Describe** how the Sinai covenant was sealed. (7marks)
- b. State **six** conditions given by God to the Israelites during the renewal of the Sinai covenant. (6marks)
- c. Why do Christians find it difficult to follow the laws of God? (7marks)
- 3a. How did king David promote the worship of Yahweh in Israel? (7marks)
- b. Explain the factors that led to David's successor's failure in their leadership. (7marks)
- c. Identify reasons why political leaders in Kenya have failed to perform their duties effectively. (6marks)
- 4a. Give **eight** reasons why God called prophets in the Old Testament (8 marks)
- b. Identify **five** visions of prophet Amos. (5 marks)
- c. Explain how the church helps to bring back members who have fallen from their faith. (7marks)
- 5a. **Describe** the evils condemned by prophet Jeremiah during the temple sermon. (6 marks)
- b. **Describe** stages followed during the renewal of the covenant at the time of Nehemiah. (8mks)
- c. Mention ways in which Christians can assist victims of disasters. (6 marks)
- 6a. Identify **five** ways of choosing a marriage partner in traditional African Society. (5marks)
- b. What changes are taking place in property ownership in traditional African communities? (8marks)
- c. Why is the church opposed to wife inheritance? (7mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

313/2 Christian Religious Education Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) This paper consists of **six** questions.*
- b) Answer **ANY** five questions in the sheets provided.*
- c) The candidate should check the question paper to ascertain that the pages are printed as indicated and that no questions are missing.*
- d) Each question contains 20marks*
- e) Candidates should answer the questions in English*

EXAMINERS USE ONLY

1	2	3	4	5	6	Total

Answer ANY five questions

- 1 a) **Outline** Isaiah's prophesy concerning the Messiah according to Isaiah **61:1-2** (7mks)
- b) **Describe** the annunciation of the birth of John the Baptist **Luke 1:5-25** (6mks)
- c) **State seven** ways in which a Christian couple should respond to childlessness (7mks)
- 2 a) **Describe** the incident when Jesus was rejected at Nazareth in **Luke 4: 16 – 30** (8mks)
- b) **Identify** reasons why Jesus faced opposition from the Pharisees in Galilee in Luke (5: 12, 6, 11) (6mks)
- c) **Identify six** problems Christians face while spreading the gospel in Kenya today (6mks)
- 3a) **Outline seven** instruction that Jesus gave to the seventy two disciples when He sent them on a mission (7mks)
- b) **Identify six** methods used by Jesus to spread the gospel (6mks)
- c) **State** ways in which the government is contributing towards evangelization process in Kenya (7mks)
- 4a) **State seven** teachings about Jesus from Peter's speech on the day of Pentecost (7mks)
- b) **Identify** the teaching of Jesus on the role of the Holy Spirit (8mks)
- c) **Outline** ways in which Christians promote unity in Kenya today (5mks)
- 5a) **Outline seven** responsibilities of Employers to their employees (7mks)
- b) **State seven** consequences of denying employees' rights (7mks)
- c) **State** factors that contribute to unemployment in Kenya (6mks)
- 6a) **Give** reasons why it is important to have laws in a country (7mks)
- b) **List seven** rights of a Kenyan citizen (7mks)
- c) **State six** roles of Christian youth during a National Election (6mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

311/1

History and Government

Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- This paper consists of three sections A,B and C
- Answer **All** questions in section A, **three** questions in section B and **two** Questions in section C
- Answer to all question must be written in the answer booklet provided
- Candidate should answer the questions in English

FOR EXAMINER USE ONLY

SECTION	QUESTION	MAX SCORE	SCORE
A	1-17	25	
B		15	
		15	
		15	
C		15	
		15	
TOTAL SCORE			

SECTION A- 25 MARKS

*Answer **All** Questions From This Section*

- 1) Give **Two** electronic sources of information in the study of history and government (2mks)
- 2) Give two economic reasons for the migration of Luo into Kenya by the 19th C. (2mks)
- 3) Identify the center of power in decentralized government of pre-colonial Kenyan societies (1mk)
- 4) Apart from the Mijikenda, name **Two** coastal Bantu communities (2mks)
- 5) Identify the **Main** political contribution of Christian missionaries in colonial Kenya (1mk)
- 6) Give a **Reason** why mob justice is forbidden in Kenya (1mk)
- 7) Identify **two** circumstances under which a person's right to own property may be denied (2mks)
- 8) Give **two** trade items from the interior during long distance trade in Kenya in the 16th Century (2mks)
- 9) State the Nandi leader who resisted British rule in Kenya (1mk)
- 10) Name the type of constitution used in Kenya (1mk)
- 11) State the main duty of the Governor during the British colonial rule in Kenya (1mk)
- 12) Identify **two** Kenyan communities who gave mixed reactions to colonial rule (2mks)
- 13) Give two reasons why corruption is discouraged in Kenya (2mks)
- 14) Define the term "**Devolution**" (1mk)
- 15) State the education commission in Kenya which recommended the 8-4-4 system of education (1mk)
- 16) Name the ex-official member of the senate (1mk)
- 17) Identify **two** pillars of Nyayoism (2mks)

SECTION B - (45 MARKS)

*Answer **Any Three** Questions from This Section*

- 18) a) Identify three Cushitic communities in Kenya (3mks)
b) Explain **six** results of the Cushitic migration into Kenya (12mks)
- 19) a) Identify **five** features of the coastal city states during the pre-colonial period (3mks)
b) Explain **five** consequences of the Indian Ocean trade to the people of East Africa (10mks)

20)a) Identify **five** terms of Devonshire white paper of 1923 (5mks)

b) Explain **five** ways in which the colonial land policies in Kenya undermined African farming (10mks)

21)a) Outline **five** problems that faced early political organizations in Kenya up to 1939. (5mks)

b) Explain the **role** of women in the struggle for independence in Kenya (10mks)

SECTION C - 30 MARKS

Answer Any Two Questions From This Section

22) a) Identify **five** elements of good citizenship in **Kenya** (5mks)

b) Explain **five** reasons why human rights are important in Kenya (10mks)

23)a) Give **three** non-military functions of the Kenya army (3mks)

b) Explain **six** functions of correctional institutions in **Kenya** (12mks)

24)a) Identify **three** funds where revenue collected by the government is deposited (3mks)

b) Explain **six** measures put in place to control utilization of public funds by the national government in **Kenya** (12mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

311/2

History and Government

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- This paper consists of three sections A,B and C
- Answer **All** questions in section A, **three** questions in section B and **two** Questions in section C
- Answer to all question must be written in the answer booklet provided
- Candidate should answer the questions in English

FOR EXAMINER USE ONLY

SECTION	QUESTION	MAX SCORE	SCORE
A	1-17	25	
B		15	
		15	
		15	
C		15	
		15	
TOTAL SCORE			

SECTION A

Answer all questions in this section

1. Give the two examples of monarchical type of government. (2marks)
2. State two aspects of oral tradition as a source of information in history. (2marks)
3. Give two stages in evolution according to Charles Darwin. (2marks)
4. Name one pre-historical site in Tanzania. (1mark)
5. State two stages of the Stone Age period. (2marks)
6. State one advantage of the currency system. (1mark)
7. Name one use of pipeline as a means of transport. (1mark)
8. Give two examples of print media. (2marks)
9. Identify two early sources of energy . (2marks)
10. State one way in which the industrial revolution in Europe promoted colonialism. (1mark)
11. State one way in which Africans responded to European rule (1mark)
12. State the main aim of Berlin conference of 1884-1885. (1mark)
13. State two types of nationalism in South Africa in the first two decades of the 20th century. (2marks)
14. Give the two war methods employed in the First World War. (2marks)
15. Name the main cause of the cold war . (1mark)
16. Name the African head of state who spearheaded the formation of the African union. (1mark)
17. Identify one political antagonist in the 1960 Congo crisis. (1mark)

SECTION B

Answer any three questions from this section

18. a) Give three contributions of archeology to the study of history. (3marks)
b) Explain six limitations of using archeology as a source of information on History and Government. (12marks)
19. a) State three slave treaties signed by the British and Seyyid Said that led to abolition of slave trade. (3marks)
b) Explain six factors that led to the decline of Trans-Saharan trade (12marks)

20. a) Identify the five water vessels developed since the 18th century. (5marks)
b) Discuss five disadvantages of water transport. (10marks)
21. a) State five causes of Franco- Mandinka war of 1891-1898. (5marks)
b) Explain five reasons why the Shona and the Ndebele were subdued by the British (10marks)

SECTION C

Answer any two questions from this section

22. a) Give five reasons why the British employed direct rule in Zimbabwe. (5marks)
b) Explain the effects of the British rule in Zimbabwe. (10marks)
23. a) List down three official languages used in United Nations Organization (U.N.O) (3marks)
b) Explain six challenges facing United Nations organization today. (12marks)
24. a) Give three ways in which the policy of nationalism slowed down economic development in Tanzania during the reign of Julius Nyerere. (3marks)
b) Describe six social challenges that have faced Tanzania since independence .(12marks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

312/1

Geography

Paper 1

Time: 2¼ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) This paper has **two** sections A and B*
- b) Answer **all** the questions in section A*
- c) Answer question **6** and any other two questions from section **B***
- d) All answers must be written in the answer booklet provided*

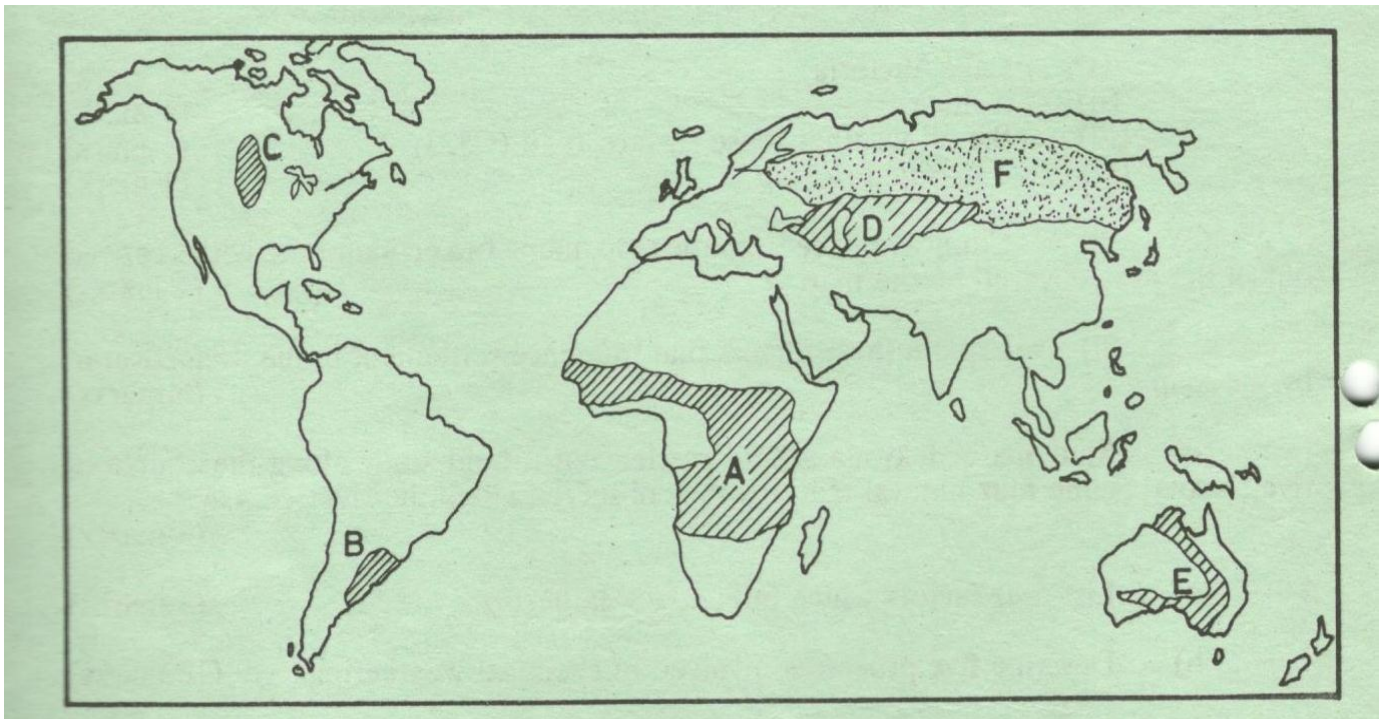
FOR EXAMINERS USE ONLY

SECTION	QUESTION	CANDIDATE SCORE
A	1-5	
B	6	
	7	
	8	
	9	
	10	
TOTAL		

SECTION A

Answer all the questions in this section.

- 1.(a) Differentiate between latitudes and longitudes. (2 mks)
(b) State **three** reasons why the interior of the earth is very hot. (3 mks)
2. Describe the origin of the continents according to the theory of continental drift . (5mks)
- 3.(a) Name the **three** main stages of the long profile of a river (3mks)
(b) State **three** conditions under which gorges may form (3mks)
- 4.(a) Give **two** sources of underground water. (2mks)
(b) State **three** conditions that favour the formation of artesian wells. (3mks)
- 5.(a) What is the meaning of the term vegetation? (1 mk)
(b) Use the sketch map below to answer the questions that follow



- i) Identify the type of vegetation in the shaded region marked F (1 mk)
ii) State **two** characteristics of the above identified vegetation type (2mks)

SECTION B

Answer question six and any other two questions from this section

6. Study the Map of **Kisumu East 1: 50 000 (sheet 116/2)** provided and answer the following questions

- a i. Apart from topographical maps name two other types of maps. (2mks)
- ii. What is the trigonometrically station at grid reference 081980 from the rock outcrop at grid reference 091992. (2mks)
- iii. Measure the length of the all-weather road bound surface B from the grid reference 974911 to the edge of the map, grid reference 947967. Give your answer in Kilometers. (2mks)
- bi. Describe the relief of the area covered by the map (5mks)
- c. Citing evidence from the map give three economic activities apart from crop growing carried out in the area covered by the map. (2mks)

di Students from the school at Masogo (grid square 0681) carried out a field study of the course of river Ombeyi

- i. State four findings they are likely to come up with. (2mks)
- ii. State three advantages of studying rivers through fieldwork. (2mks)
- iii. What problems were the students likely to face during their field study? (2mks)

7.(a) (i) What is ocean salinity? (2mks)

(ii) Give **three** sources of mineral salts in ocean water. (3mks)

(b) Explain **three** factors that cause horizontal movement of ocean water. (6mks)

(c) Describe how the following are formed

(i) Wave-cut platform. (4mks)

(ii) Cuspate foreland. (5mks)

(d) You intend to carry out a field study on wave deposition on the coast of Kenya.

(i) Formulate **two** hypotheses for your study. (2mks)

(ii) Give **three** reasons why you would need to state objectives for your study. (3mks)

8. a) (i) List **four** characteristics of desert soils. (4 mks)
- (ii) Give **two** factors that contribute to soil leaching. (2 mks)
- b) Explain how each of the following factors influence the formation of soil
- (i) Parent **rock** (2 mks)
- (ii) Living organisms (2 mks)
- (iii) Topography (2 mks)
- c) Draw a well labelled profile of a mature soil. (5 mks)
- d) Differentiate between a soil profile and soil catena. (2 mks)
- e) Explain **three** ways in which human activities contribute to soil erosion. (6 mks)

9. (a)(i) What is a glacier? (2mks)
- (ii) How is a glacier formed? (4mks)
- b)(i) Explain **three** processes through which ice **moves** (6mks)
- (ii) Describe the formation of a cirque (3mks)
- c) Describe how the movement of valley glaciers is influenced by the following factors
- (i) Temperature (2marks)
- (ii) **Width** of glacier channel (2marks)
- d. You intend to carry out a field study on Mt Kenya
- (i) Name **three** types of moraines you are likely to identify (3mks)
- (ii) State **three** problems you are likely to encounter (3mks)

- 10.a) (i) Define the following features
- **Erg** (1 mk)
 - Hamada (1 mk)
 - Reg (1 mk)
- (ii) State **two** factors that contribute to the development of hot desert. (2 mks)
- b) With the aid of well labeled diagrams explain how a rock pedestal is formed. (8mks)
- c) Explain **three** factors that influence wind transportation in a desert. (6 mks)
- d) You are required to carry out a field study of an arid area in Kenya.
- (i) Formulate **two** objectives for the study findings. (2mks)
- (ii) State **two** measures the government would put in place to curb desertification in Kenya.(2mks)
- (iii) Name any **two** features resulting from action of water in desert areas. (2mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

312/2

Geography

Paper 2

Time: 2¼ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES.

- a) This paper has two Sections; **A** and **B**.
- b) Answer **all** the questions in Section **A**.
- c) Answer question **6** and any other **two** questions from section **B**.

FOR EXAMINER'S USE

SECTION	QUESTION	MAXIMUM SCORE	SCORE
A	1 -5	25	
B	6	25	
	7	25	
	8	25	
	9	25	
	10	25	
		100	

SECTION A

*Answer **all** the questions in this section*

- 1 a) State **three** factors that contribute to growth of slums in urban centers. (3mk)
b) List **two** types of settlement patterns in Kenya. (2mk)
- 2a) State **three** physical conditions that favour growing of maize in Kenya. (3mk)
b) Give **two** problems facing maize farming in Kenya. (2mk)
- 3a) What is air pollution? (2mk)
b) State **three** ways that Kenya has adopted to manage air pollution. (3mk)
- 4a) Differentiate between a national park and a game reserve. (2mk)
b) State **three** effects of human encroachment into wildlife habitats. (3mk)
- 5 a) Name **two** places where diamond mining is done in South Africa. (2mk)
b) State **three** problems facing gold mining in South Africa. (3mk)

SECTION B

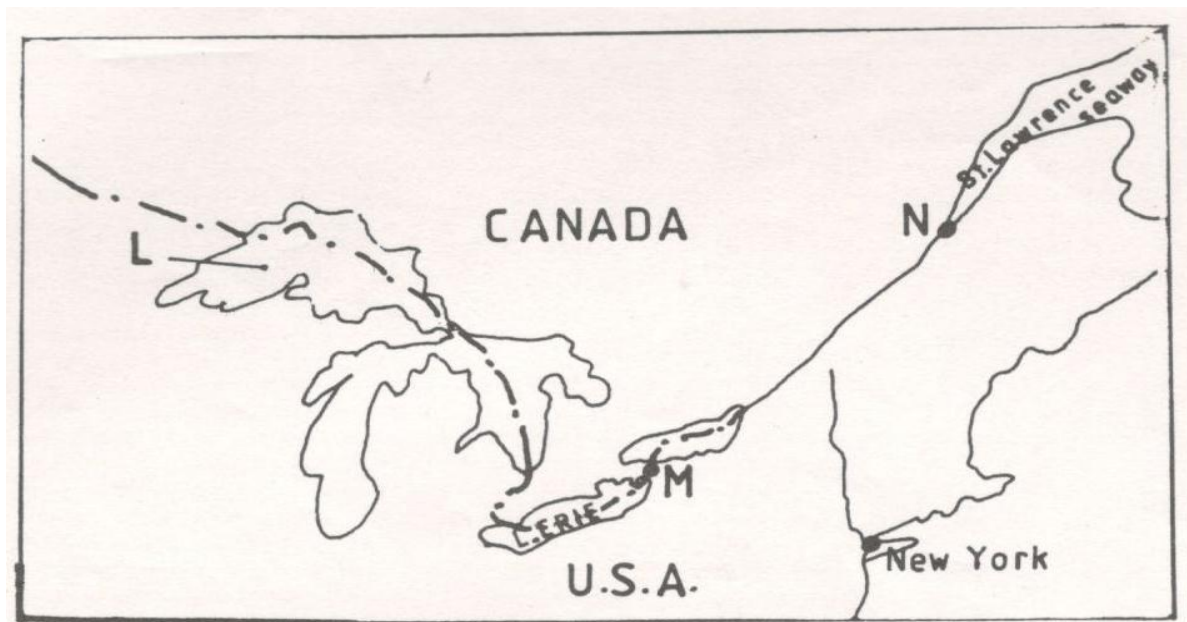
*Answer **question 6** and any other **two** questions from this section.*

- 6 a) The photograph below shows a crop cultivated under horticultural farming.



- a i) identify the type of photograph shown above. (1mk)
- ii) Using evidence from the photograph, identify **two** indicators that show the area receive high rainfall. (2mk)
- iii) Draw a rectangle measuring 15 cm by 10 cm and on it sketch and show the main features. (4mk)
- b) State **four** reasons why growing of vegetables in green houses in Kenya would be preferred. (4mk)
- c) Explain **four** difficulties that the Kenyan farmer face in marketing horticultural produce. (8mks)
- d) Explain **three** similarities between horticultural farming in Kenya and Netherlands. (6mk)
- 7a) Differentiate between pelagic fishing and demersal fishing. (2mk)
- b) State **four** reasons why marine fisheries are not well developed in Kenya. (4mk)
- c i) Explain **three** reasons why Lake Victoria is a major fishing ground in Kenya. (6mk)
- ii) Give **five** ways in which fresh water fisheries in Kenya can be conserved. (5mk)
- d) Explain **four** differences between fishing in Kenya and Japan. (8mk)

8 The sketch map below shows the Great Lakes and the St. Lawrence sea way. Use it to answer question (a)



- a) i) Name the lake marked L. (1mk)
- ii) Name the waterfall marked M. (1mk)
- iii) Name the sea port marked N. (1mk)

b) i) List **three** objectives that led to the construction of the St. Lawrence sea way. (3mk)

ii) Explain **four** ways in which the St. Lawrence Sea way has benefited the economies of Canada and the USA. (8mk)

c) State **three** causes of the decline in use of letters as a mean of communication in Kenya. (3mk)

d) Explain **four** efforts made by the Government of Kenya to solve the problems facing communication in the country. (8mk)

9 a i) Name **two** places in Kenya where wind energy is being harnessed. (2mk)

ii) Give **four** reasons why Kenya has not been able to fully exploit her geothermal power potential. (4mk)

b) Explain **four** benefits that would result from rural electrification in Kenya. (8mk)

c) Apart from petroleum oil, name **three** other sources of non -renewable energy. (3mk)

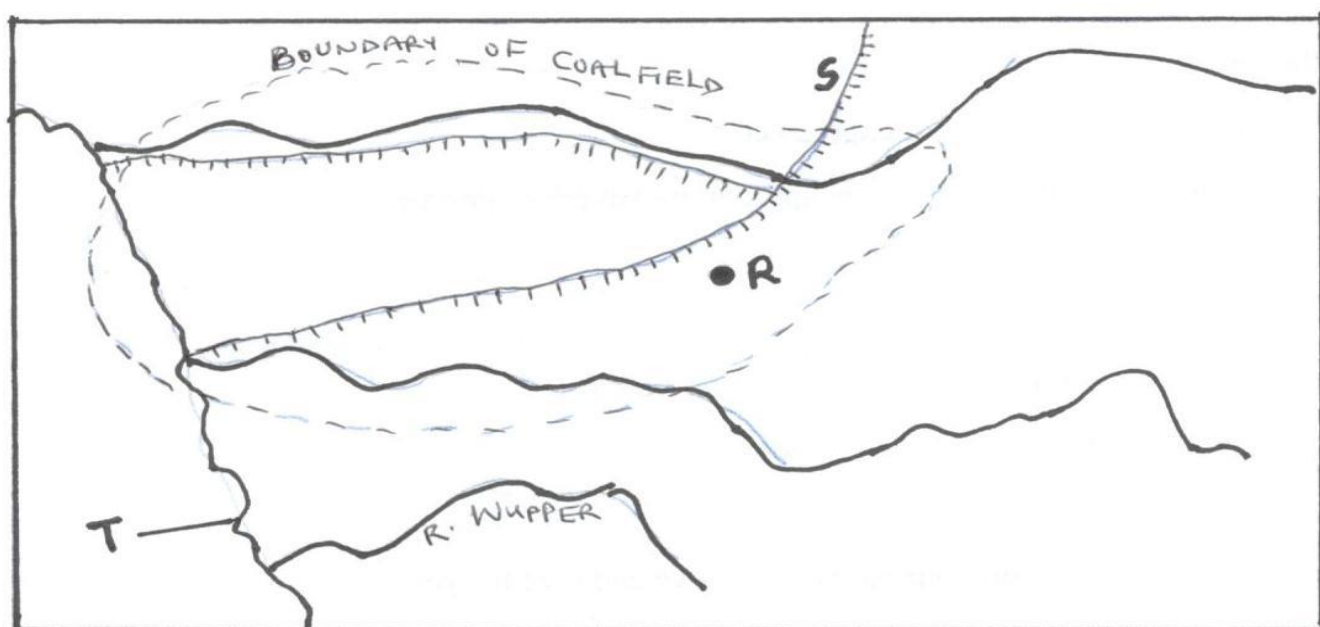
d) i) What is energy crisis. (2mk)

ii) Explain **three** effects that the increase in petroleum oil prices has had on the economy of Kenya. (6mk)

10. ai) Name **two** towns in Kenya with motor vehicle assembly industries. (2mks)

ii) State **four** ways in which Kenya has benefited from the motor vehicle assembly industries. (4mk)

b) The sketch map below shows the Ruhr Industrial region of Germany.



- i) Name the town marked **R**. (1mk)
- ii) Name the canal marked **S**. (1mk)
- iii) Name the river marked **T**. (1mk)

c) Explain **four** factors that have led to the growth of the iron and steel industries in the Ruhr region of Germany. (8mk)

d) Your class has decided to undertake a field study in a factory near your school.

i) Give **three** reasons why it is important to seek permission from the school. (3mk)

ii) State **two** reasons why administering questionnaires may not be an appropriate method to collect data. (2mk)

iii) State **three** advantages of using statistical tables to record data. (3mk)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

101/1

English

Paper 1

(Functional Skills)

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

Write your name and admission number in the spaces provided above

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

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	10	
3	30	
TOTAL SCORE	60	

FUNCTIONAL WRITING(20 MARKS)

A friend has written to say that he will be traveling to another country via Kenya. He hopes that you can host him for a day in your house. However, something very important comes up the material day and you have to be away. You leave the key to your house with a neighbour who will give it to your visitor.

Write a letter to that friend explaining the situation. Also assist him prepare dinner in your absence.

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[illegible]

CLOZE TEST (10 MARKS)

The African business climate (1)..... unpredictable. Many contracts are difficult(2) enforce due to inefficient judiciary(3) high level corruption. Africa is(4)..... by aid money from wealthy nations. To cover(5)for this fact, developed countries media address the corruption issue by implying that African leadership is(6) corrupt! Corruption is not an individual(7) It is a process; a systematic issue that can only(8) addressed by discouraging the incentive behind it. Part of the (9)..... is the developed nation willingness to bank all the stolen(10) from Africa.

ORAL SKILLS (30 MARKS)

A. Read the following poem and then answer the questions that follow

Happy Baby

Her lips suckle the nipples
Milk bubbles, foams and ripples
Little hands up in the air
Catch on the mother's hair
Sweet sensation rises in pressure
Tiny legs kick pleasure
Sleep comes gently and strong
Sleep whispers softly and long

(i) Describe the rhyme scheme of the poem. (2 Marks)

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(ii) Give and illustrate two oral features of style. (4 Marks)

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(iii) Which two words would you stress in line 2, and why? **(2 Marks)**

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B. For each of the following words, construct two sentences to bring out the difference in meaning. Do not change the form of the word. **(4 Marks)**

(i) Produce

.....

.....

(ii) Beat

.....

.....

C. Suppose you are reciting a solo verse to a big audience, what problems are you likely to encounter? **(3 Marks)**

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D. Identify and underline the word that is pronounced different in each of the following set. **(5 Marks)**

- a)** Sew Sue Sow
- b)** Hair Air Heir
- c)** Hard Heard Herd
- d)** Fort Forty Fought
- e)** Cause Coarse Course

E. Complete the following dialogue with the most suitable expressions. **(10 Marks)**

You just witnessed an accident. A matatu rammed into a lorry. Many passengers have been seriously injured.

Matatu driver: Is there anyone here with a mobile phone? We have to call the police immediately.

You: **(1 Mark)**

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.....
Matatu driver: Can you please call the police station and inform them about the accident?

You: (1 Mark)

.....
Police officer: Yes. This is Pangani Police Station. Constable Mwanja speaking. Can I help you?

You: Yes please. There has been a terrible accident.

Police officer: May I know who is calling please?

You: (2 marks)

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.....
Police officer: Where has the accident taken place?

You: On Gen. Waruinge Street, at the bumps next to Pumwani Secondary School.

Police officer: What happened?

You: (3 Marks)

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.....
Police officer: Really? Are there any casualties?

You: (2 Marks)

.....
Police officer: Don't worry, we will be there as soon as possible. Meanwhile, I will call the ambulance and also alert Kenyatta Hospital to be ready for casualties. Thank you very much master Leon for calling.

You: (1 Mark)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

101/2

English

Paper 2

(Comprehension, Literary Appreciation and Grammar)

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces provided above.
- Sign and write date of examination in the spaces provided above.
- Answer **ALL** questions in this question paper..
- All your answer must be written in the spaces provided on the question paper

FOR EXAMINERS USE ONLY

Question	Max Score	Candidate's score
1	20	
2	25	
3	20	
4	15	
TOATL SCORE		

For Marking Schemes Contact 0746-222-000 / 0742-999-000

COMPREHENSION

1. Read the passage below and the questions after it

Kenya's wealth management industry is underdeveloped as majority of the super rich prefer to use foreign private firms and hold their money outside the country.

A newly released report by New World Wealth says the high-net-worth individuals in Kenya bank their money in foreign banks.

"The majority of wealthy Kenyans use foreign private banks, which hold their money abroad. As a result, the local private banking industry is totally underdeveloped." The report says.

About 50% of these high net-worth individuals are elite with political connections, and are estimated to have \$10 billion (Sh6860 million) banked abroad-constituting 30% of the national wealth. The money is banked mostly in private banks in UK, Switzerland, Cyprus and channel Islands.

According to the London based New World Wealth, a large proportion of the local wealth was in 2013 held in off shore accounts.

However, Kenya's wealth management systems is set to benefit from strong growth on wealth in other East Africa countries, which have less developed banking systems and are likely to opt for Kenyan banks.

"Kenya's wealth management industry is likely to expand over the forecast period as more high – net-worth individuals are created and as banks begin to set up in the country".

The report adds that the current crackdown on the offshore centres might force super rich Kenyans to repatriate their wealth into the country-further boosting the local wealth management of funds with the objective of stopping funding of terrorist networks.

Among the foreign private banks in Kenya are Barclays of UK and Saniam of South Africa. Others that have expressed interest of setting up in the country are credit Suisse and UBS of Switzerland, RMB and Standard of South Africa.

In Kenya, the wealth management service providers are dry Associates, Global Eye, In touch Capital, Inter-Alliance International and private Wealth.

Most wealthy families in developed countries have their assets and funds under managers, but there are no known family offices in Kenya. The report says that this segment is expected to grow as more millionaire.

Family offices are involved in management of household staff, property management, philanthropy co-ordination, family education, inter-generational transfer and legal and tax services apart from the usual investment services.

The report says there are 2,700 single families holding of \$1.7 trillion and 2,300 multifamily offices holding \$800 billion in the world-making it a big business.

The report says the low-tier millionaires tend to hold cash and real estate billionaires tend to invest in commodities and alternative assets as hedge funds while affluent millionaires are likely to invest in fixed income and equity.

QUESTIONS

(a) Why is Kenya's wealth management industry underdeveloped **(2marks)**

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.....

(b) Give a reason as to why these wealthy Kenyans find it easy to bank abroad **(1mark)**

.....

.....

(c) In about 30 words, summarize the factors that will strengthen the Kenya's Wealth management systems **(3marks)**

.....

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.....

(d) Make notes on the importance of creating wealth managers **(4marks)**

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(e) According to the passage, how can you distinguish between low-tier millionaires and affluent millionaires **(2marks)**

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(f) Explain any instance of irony in the passage **(2marks)**

.....

.....

.....

(g) Why do you think majority of wealthy Kenyans keep their money abroad **(1 mark)**

.....

.....

(h) (i) Many countries have intensified vigilance are movement of funds with the objective of stopping funding of terrorist networks. (Rewrite using a question tag) **(1mark)**

.....

.....

(ii) A newly released report by new World Wealth says the high net-worth individuals in Kenya bank their money in foreign banks

(Rewrite so as to avoid the reported speech) **(1mark)**

.....

.....

.....

(i) Explain the meaning of the following words as used in the passage **(3marks)**

(i) Repatriate

.....

.....

(ii) Vigilance

.....

.....

(iii) Hedge

.....

.....

2. Read the following extract and answer the questions that follow.

Krogstad: Are you sure of that?

Mrs.Linde: Quite sure, but-

Krogstad: (with a searching look at her) is that what it all means?- that you want to save your friend at any cost? Tell me frankly. Is that it?

Mrs.Linde: Nils, a woman who has once sold herself for another's sake doesn't do it a second time.

Krogstad: I will ask for my letter back.

Mrs.Linde: No, no.

Krogstad: Yes, of course I will . I will wait here until Helmer comes; I will tell him he

must give me my letter back- that it only concerns my dismissal- that he is not to read it-

Mrs.Linde: No, Nils, you must not recall your letter.

Krogstad: But , tell me, wasn't it for that very purpose that you ask me to meet you

here?

Mrs.Linde: In my first moment of fright, it was. But twenty-four hours have elapsed since then, and in that time I have witnessed incredible things in this house. Helmer must know all about it. This unhappy secret must be disclosed; they must have a complete understanding between them, which is impossible with all this concealment and falsehood going on.

Krogstad: very well, if you will take the responsibility. But there is one thing I can do in any case, and I

shall do it at once .

Mrs.Linde: (listening) You must be quick and go! The dance is over; we are not safe a moment longer.

Krogstad: I will wait for you below.

Mrs.Linde: Yes, do. You must see me back to my door-

Krogstad: I have never had such an amazing piece of good fortune in my life! (goes out through the

outer door; the door between the room and the hall remains open)

Questions

1. Explain what has happened before this excerpt .

(2marks)

.....

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.....

.....

2. Explain why Krogstad says he would ask for his letter back? **(3marks)**

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3. Nils, a woman who has once sold herself for another's sake doesn't do it a second time.

Explain what makes Mrs Linder say this. **(3marks)**

.....

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.....

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4. Identify two character traits of Mrs Linde. **(4marks)**

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5. Explain the irony in this excerpt. **(2marks)**

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6. But there is one thing I can do in any case and I shall do it once, what is that Krogstad does later and how does it affect the rest of the play. **(4marks)**

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7. I have never had such an amazing piece of good fortune in my life! Rewrite beginning Never (1mark)

.....
.....

8. Identify any theme brought out in the except (2marks)

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

9. Explain the meaning of the following words. (4marks)

- i) At any cost
- ii) Recall.....
- iii) Elapsed.....
- iv) Incredible things

3. *Read the Oral Narrative below and answer the questions that follow.*

AN OLD WOMAN AND HER DEFORMED SON

There was an old woman whose children died in infancy and only a deformed boy survived to grow into adulthood. The boy was a hunchback.

Although the old woman loved this hunchback son of hers, she was secretly ashamed of his physical appearance. She was ashamed that each day she was on the lookout of visitors who might come around just to make fun of him. To keep him away from the public eye, she used to confine him in a drum most of the time. So, right from his childhood, the boy grew up in a drum. He was taken out only a few times during the day when the old woman was sure that there were no intruders around. When the boy attained circumcision age, he was duly circumcised. After circumcision he said to the old woman, “mother, I now want a wife, can you please find me a girl to marry!” “Yes, my son,” said the old woman. I will try. I am indeed very pleased to learn that you are already thinking of a wife.”

By and by, the old woman went to look for a suitable girl to marry her son. She approached a pretty girl and asked her whether she would be interested in marrying her son and the girl promised to think about it. Without disclosing her son’s physical defects to the girl, the old woman set about wooing her intensively. She brought all sorts of gifts to her mother, helped the girl to collect firewood and even helped her with work in the shamba. Reluctantly the girl gave in and there upon requested the old woman to make the necessary arrangements so that she would meet the future

husband. The old woman cunningly suggested that the girl should accompany her to her house where she would be able to meet the boy.

The old woman lived a long way from the girl's village. On the day when the girl decided to visit her prospective bridegroom, she walked and walked until the sun set. It was a very long journey indeed. When she eventually arrived, the old woman pretended that the young man was around and he would appear shortly. The girl waited and waited but the boy did not appear at all. At bedtime, the girl was told that the boy was already in bed sleeping. She was shown a separate place to sleep, and, thus no opportunity to either see or talk to the boy as would have been expected of people who were planning to live together.

Very early in the morning the girl asked the woman, "Please, where is the boy you want me to marry? And the woman replied, "My son woke up early in the morning and went to work in a different village yonder so that he can earn something for your bride price." Everything was around the house. The old woman and the girl went to cultivate in a banana grove. While they were away, the boy jumped out of the drum, busied himself about his house with the little chores singing:

KhanenuyaMunju, mwange, Khanenuyemunjumwange
Mkhasinakikhalimisilu, majikukuombelesyamusechakacha
Khucuma, abele khuchumanachasina?
Menyile, mukhang'oma, kurumbakulikhumukongo
(Let me busy myself in my house. Aren't women foolish?
Mother fooled her,

"Your husband has gone to work," How could I have gone to work? I just live in my little drum because I have a hunchback")

The girl heard the boy's singing but it was so faint that she would neither comprehend the meaning of the song nor even make out as to which direction the sound came from. However, out of curiosity she stopped from time to time and listened. This went on for several days until she started to guess the meaning of the words in the song. On getting the message home she was quite disturbed. Her suspicion was strengthened by the fact each morning they left for the shamba without sweeping or washing utensils but on their return they found everything tidy about the house. One day she deceived the old woman by telling her that she was going to attend to a call of nature while in fact her intention was to discover exactly what was going on in the house. No sooner had she disappeared behind the bushes than she tiptoed to the house and stood listening keenly at the door. She got really upset with the boy's derogatory song. She pondered with herself, "So this is my husband to be? A hunchback confined to a drum? No wonder the old woman deceived me the way she did. What girl in proper sense could marry a man like that? Anyway what can I do now? I must put an end to this confirmed bluff..."

One morning she said to the old woman, "Mother, today you will go look for firewood while I go to the plantation alone." The old woman said, "Yes, my daughter, we can share work that way." She had grown so used to the cheerful and friendly manner of the girl, thinking that she would not mind staying on as her daughter-in-law even after discovering that her son was deformed. Indeed she was already contemplating making the revelation to her.

And so each went her separate way. But as soon as the old woman vanished from the sight, the girl dashed back and stood at the door which had now become familiar ground for spying on the hunchback. She listened briefly as the boy sang mischievously inside the house. Then she stole a quick glance peeping through a side hole.

To her amazement, she saw that he was really a hunchback! Quite oblivious, the boy went on sweeping the floor and singing. The girl felt that she could no longer stand it. She broke into the house suddenly with the intention of beating up the mischievous fellow. But before she could get hold of him he dodged nimbly and slipped back into the drum. Nonetheless, the girl fuming with anger picked up the drum and smashed it on the floor. A pool of blood started oozing from the broken drum. The poor hunchback was dead!

Considering it appropriate revenge on the old woman the girl felt no remorse for the action she had taken. She rolled over the cold body of the hunchback as a lamp of anger swelled her throat. When the old woman returned home and found the mess she had done in the house she screamed at the top of her voice, Ooh, oh, Uuuuuwe... uuuuuwe!” But it was all in vain. The deformed boy whom she had been ashamed of showing to the public was dead and gone forever! Yes, instead of feeling relieved by burden of shame she now felt great anguish for this loss. After killing the hunchback the girl also disappeared never to be seen again. The poor old woman remained there weeping and feeling quite forlorn.

Questions

(a) Categorize this narrative. **(2marks)**

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.....

.....

(b) What function does the song serve in this narrative? **(2marks)**

.....

.....

.....

(c) Describe the character of:- **(4marks)**

(i) The girl:

.....

.....

.....

(ii) The old woman:

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.....

.....

(d) What moral lesson do we learn from this narrative? **(2marks)**

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.....

.....

(e) How far is the old woman to blame for the tragedy that befell her? **(3marks)**

.....

.....

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.....

(f) Identify **two** socio-economic activities in the community. Support your answer with evidence from the story. **(2marks)**

.....

.....

.....

(g) Give a proverb to summarize this narrative. **(2marks)**

.....

.....

(h) Describe the domineering mood in the last 2 paragraphs **(3mark)**

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.....

.....

GRAMMAR (15MKS)

(a) Rewrite each of the following sentences according to the instructions given. Do not change the meaning. **(5marks)**

- (i)** I wouldn't have preferred these criminal charges against the Journalist if you had mentioned this to me last year. (*Begin: Had.....*)

.....
.....

- (ii)** Only after much persuasion did the patient agree to be operated on. (*Begin: It took....*)

.....
.....

- (iii)** The principal informed form one parents that fees once paid cannot be transferred for whatever reason. (*Begin: The principal..... that under*)

.....
.....

- (iv)** The teacher found out how intelligent Bernard was when the lesson began. (*Begin: It was not....*)

.....
.....

- (v)** I will go if I see my brother. (*Begin: I would have gone*)

.....
.....

(b) Use the correct form of the word given in brackets to fill in the gap. **(3marks)**

- (i)** The accident victims were admitted in a _____ hospital. (refer).
(ii) I did not get the question because it was _____ set. (logic)
(iii) Felister _____ in standard one this year. (be)

(c) Identify mis-spelt words in the following sentence and write their correct spelling down.

(3marks)

(i) The received pronunciation of ‘ocession’ has changed this milenium.

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.....

(d) Replace the following underlined expressions with the most appropriate one word.

(4marks)

(i) When the teacher met her outside the classroom, Erastina made up a story.

.....

(ii) The walls of the mall caved in after the terrorists struck.

.....

(iii) He always irons out people’s problems.

.....

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

101/3

English

Paper 3

(Creative Composition and Essays Based on Set Texts)

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) Answer any **three** questions only
- b) Question 1 and 2 are **compulsory**
- c) In question 1, attempt either **a** or **b**
- d) In question 3, choose only one of the optional set texts you have prepared on.
- e) Where a candidate presents work on more than one optional texts, only the first one to appear will be marked.
- f) Each of your essays must **not** exceed **450** words.

For Examiners Use Only

Question	Maximum Score	Candidate's Score
1.	20	
2.	20	
3.	20	
TOTAL SCORE		

1 Compulsory: Imaginative Composition

(20 Marks)

Either

a. Write a composition beginning: Once I saw her I knew something was terribly wrong...

Or

b. Write a composition based on the following statement: Technological advancement has had some negative impacts on the society in general and youth in particular.

2. Compulsory Set Text:

(20 Marks)

Henry Ole Kulet, Blossoms of the Savannah

“Self Interest is a sure way to self-destruction.” Using illustrations from Henry Ole Kulet’s Blossoms of the Savannah discuss the truth of this statement.

3. The Optional Set Texts

(20 Marks)

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

Either

a) The Short Story: A Silent Songs and Other Stories.

War causes a lot of harm and thus should be avoided at any cost. Validate this statement basing your illustrations from Chimamanda Adichie's 'Ghosts'

Or

b) Drama:

David Mulwa, The Inheritance

Lacuna’s dictatorial regime is a mockery to civilization. Show the truth of this statement using illustrations from the play.

Or

c) The Novel

Kazuo Ishiguro, Artist of the Floating World.

The central storyline of the novel, or at least of its more linear portions, revolves completely around an engagement. Discuss this statement basing your illustrations from the novel an **Artist of the floating world.**

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

102/1

Kiswahili (Insha)

Paper 1

Time: 1¾ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

MAAGIZO

- a) Andika jina lako na nambari ya usajili kwenye nafasi ulizoachiwa hapo juu.
- b) Tia sahihi yako kisha uandike tarehe ya mtihamani katika nafasi ulizoachiwa hapo juu.
- c) Andika insha **mbili**. Insha ya kwanza ni ya **lazima**.
- d) Kisha chagua insha nyingine moja kati ya hizo tatu zilizobakia.
- e) Kila insha isipungue maneno 400.

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
1.	20	
2.	20	
3.	20	
4.	20	
JUMLA	40	

Swali la kwanza.

1. Andika barua kwa rafiki yako ukimweleza jinsi michezo inavyoweza kuimarishwa katika shule ya Sokota.
2. Mapenzi ya kiholela yamekuwa tatizo sugu katika taifa. Jadili
3. Tunga kisa kinachodhihirisha maana ya methali ifuatayo; ukiona vyaelea vimeundwa.
4. "Ukosefu wa nidhamu ni kosa kubwa kwa mwanafunzi kama wewe. Pokea barua hii na uje na mzazi baadaya wiki mbili..." Endelea.

HUU NDIO UKURASA WA MWISHO ULIOPIGWA CHAPA

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

102/2

Kiswahili (Lugha)

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

MAAGIZO KWA MTAHINIWA

- a. Karatasi hii ina kurasa kumi na mbili zilizopigwa chapa.*
- b. Andika jina na nambari yako katika nafasi ulioachiwa hapo juu.*
- c. Jibu maswali yote.*
- d. Majibu yote yaandikwe katika nafasi zilizoachwa katika kijitabu hiki cha maswali.*
- e. Majibu yote yaandikwe katika lugha ya Kiswahili.*

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
1	15	
2	15	
3	40	
4	10	
JUMLA	80	

A. UFAHAMU (Alama 15).

Soma kifungu hiki kisha ujibu maswali.

Binadamu heshi kuwa na falsafa zinazojiri akilini mwake. Amejichanjia kijisayari chake cha kufikirika mfano wa Mirihi katika falaki yake ya maisha. Ni sayari ndogo ambayo imejitenga nasayari nyingine kama vile kausi.

Katika Mirihi kuna viumbe mahuluti vyenye mitindo ya kustaajibisha. Tofauti na Kausi ambayo mabinti huwa na urembo wa kiasilia, wanamirihini ni "warembo" mithili ya walioanguliwa ja vifaranga. Viganja vyao na nyuso zao huwa zimekandwa kwa mafuta ya zebaki zikawa nyororo japo wengi huwa mithili ya suriama. Wasalaminiapo na wanakausi mikwaruzo yao huwachipua ngozi kwa kazi ya sulubu waifanyayo shambani. Fauka ya uhotara huo, wamefungasha kiasi huku wamejisetiri kwa vijisuruali na vijisketi ambavyo vimewabana kana kwamba vimeundwa kwa vitambaa vya mikononi na kutafuta misaada kutoka kwa majirani kuvivua na kuvivaa.

Wanakausi waliovalia nguo zinazowafika kwenye visigino, huchushwa mno na hivi vijiguo vinavyowasetiri hadi kwenye sisemi vilengesambwa, ukipenda magotini, bali kwenye mapaja. Ni kweli kwamba waso haya wana mji wao. Wanapodatia hasa kwenye hafla za maziko au arusi katika sayari ya Kausi, wanakausi hujibana pembeni kujionea malimwengu ulimwenguni.

Minong'onezo ndio itajaa hewani "ni yakini Pemba ndiko kwenye nguo na wenda uchi wapo". Katika hafla hizo, wale mabinti wazuri wa Mirihi hubeba vibogoshi ambamo mara kwa mara hutoa vidubwasha vidogo vidogo na kuendelea kujipodaa huku shughuli zinapoendelea. Pengine huenda umesahau kuwa katika mipango na makadirio ya matumizi ya hafla hiyo marejeleo yanayokaririwa huwa "..... wajua watu wa Mirihi hawapendi....."

Mabinti wazuri wa Mirihi kila mmoja huwa amejibeeba mwavuli wa kujizuia mvua au jua huku amekumbatia maji ya chupa ya kutoka kwenye sayari ya Mirihi.

Wanakausi walalahoi huwa wakikata kiu yao rahisi kutoka kwenye mapipa yaliyojazwa maji au kwenye mifereji waliyobahatika kuwekewa na wizara ya maji, kwa kutumia viganja vya mikono. Mabwana wa Mirihi hawana haja na miavuli, wao huwa watu wenye zao. Huvalia kofia nene zinazoonekana kama somberero. Watembeapo huning'iniza funguo za magari ya kifahari katika mkono wa kushoto na simu za rununu katika mkono wa kulia.

Hapa na pale watakuwa wakiwasiliana kwa simu zao na pia kupiga gumzo na maghulamumu wa Kausi ambao kwa kawaida watakuwa wakiwarai Wanamirihini, "Utaniacha hivyo?"

Baada ya hafla, mlo ambao huwa Wanamirihini hupakuliwa huku Mabwanamirihini wakidakia wasichelewe, mabintimirihini wakinyofoa kwa mikono au kung'ofoa kwa midomo yao myekundu na Wanakausi wakichungulia kwa mbali wakisubiri nafasi yao itimie.

Ghafla mawingu yataanza kutanda upande wa mashariki na mambo sasa yatachukua mkondo mpya. Wanamirihini mchakamchaka huengaenga, mbio kwenye magari yao. Lakini kuna wale ambao hawana magari ya kukimbilia. Kawaida yao huwaita Wanamirihini wenzao faraghani "Baba fulani umejaza?".

Wengine hubaki kusema, "Huenda basi letu likaniacha, tutaonana nikija wikendi." Hali iwapo mwanana, Wanakausi watakuwa sasa ndio wakati wa kujitambulisha na wengine kuyajaza magari ya Wanamirihhi ya kifahari, kwa maembe, avocado, ndizi na makochokocho ya vitu vya shambani. Baada ya miezi kadha, Wanakausi wachache watawazuru Wanamirihhi kuwapa shukurani katika kijisayari chao cha Mirihhi.

Hapo sasa watafumbua jibu la kitendawili watakapokumbana na Bintimirihhi amebeba kijikaratasi cha nailoni kimejazwa embe dodo moja, sukumawiki bila kusahau kisehemu cha nyama alichopimiwa cha shilingi kumi. Kwa kuwa atapata malazi kwake atamshauri, ".....pengine unionyeshe bucheri tununue nyama.... tupitie dukani tununue" hapo kwake Malaika atakuwa ameshuka kutoka Kausi hadi Mirihhi.

Lakini wengine ni wale ambao pindi tu utakapowasalimia watakukwa na "zamu ya usiku siku hiyo." Wanaoalia somberero watamlaki mwanakausi kwa mlahaka wa kifalme ili akastaajabie vitu kama **majirafu**, mazulia, makochi, taja nitaje.

Yule wa awali atalala usiku huo usingizi mnono usio wa bugudha na kwenye kochi huku akihimiria kurauka mapema asikutwe na waliolala nyuma ya pazia. Hisia za Mwanakausi zitamrudisha katika tamthilia ya WoleSoyinka "Masaibu ya ndugu Jero kuwa "vidole vyote havikumwa sawa." Mirihhi ni sayari iliyo sheheni watu na viatu, kumbe Kausi ni shamba la paukwa pakawa la Edeni. Tafakari haya!

Maswali.

a) Andika anwani mwafaka ya taarifa hii.

(alama 2)

.....
.....

b) Eleza tofauti kati ya wanawake wa Mirihhi na wale wa Kausi.

(alama 3)

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

c) Ni dhahiri kuwa Mirihhi ni Sayari yenye watu na viatu. Nini maana ya viatu. Je, kuna viatu hapa?

Thibitisha.

(alama 3)

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

d) Kwa mujibu wa taarifa, mabinti wa mirihi ni wa tabaka lipi? Thibitisha. (alama 3)

.....

.....

.....

.....

.....

e) Mwandishi anamaanisha nini anaposema " utaniacha hivyo?" (alama 2)

.....

.....

.....

f) Eleza maana ya: (alama 2)

- i. Jirafu. _____
- ii. Vibogoshi. _____

B. UFUPISHO (Alama 15)

Soma makala yafuatayo kisha 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 inakadiri 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 zima 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 kuhathiri 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 yanayopatikana katika mwongozo uliotolewa tu. Mwanafunzi hapewi motisha ili kusoma kwa mapana na 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 kukujibu maswali na kupita mitihani.

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 kubwa 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.

Maswali.

- a) Fupisha aya ya kwanza na ya pili. (maneno 60)(alama 9, 1 ya utiririko)

MATAYARISHO

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b) Fupisha aya ya tatu na ya nne. (maneno 50)(alama 6, 1 ya utiririko)

MATAYARISHO

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C. MATUMIZI YA LUGHA. (ALAMA 40)

a) (i) Taja konsonati mbili zinazotamkiwa katika kaakaa gumu. (alama 2)

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(ii) Sauti ulizotaja hapo juu ni za aina gani? (alama2)

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b) (i) Shadda ni nini? (alama 1)

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(ii) Weka shadda katika maneno yafuatayo. (alama2)

Ua _____

Kiwakilishi _____

c) Tunga sentensi mbili kuonyesha dhana tofauti zinazobainishwa na kiimbo. (alama2)

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d) (i) Kiambishi ni nini? (alama 1)

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(ii) Ainisha mofimu katika neno lifuatalo. (alama3)

Kilicholiwa.

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e) Bainisha maneno katika sentensi ifuatayo. (alama 3)

Kumbe mtu mfupi anarukia lile zuri.

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f) Maneno yafuatayo yamo katika ngeli gani. **(alama 2)**

(i) Wembe_____

(ii) Minyoo_____

g) Andika sentensi ifuatayo kwa ukubwa wingi. **(alama 3)**

Ngamia alibeba hema lililotengenezwa kwa ngozi ya chui.

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h) Tunga sentensi inayodhihirisha matumizi ya ‘O’ rejeshi tamati. **(alama 2)**

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i) Onyesha hali iliyotumika katika sentensi ifuatayo. **(alama1)**

Mganga aonekana akiwa uchi.

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j) Kanusha. **(alama 1)**

Ningekuwa kasisi ningewafanya mwende mbinguni.

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k) Eleza matumizi mawili ya kiambishi –ji- **(alama 2)**

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l) Changanua sentensi ifuatayo kwa njia ya visanduku.

(alama 4)

Ng'ombe akamuliwaye atachinjwa kesho.

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m) Andika sentensi ifuatayo katika usemi halisi.

(alama 3)

Mtaalamu alituambia kuwa kusoma kwa mapana kungepalilia ubunifu wa wanafunzi hao wao.

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n) Tunga sentensi moja moja ukitumia maneno yafuatayo katika kauli ulizopewa mabanoni.

(alama 2)

(i) Fumba (tendata)

(ii) Kwaa (tendama)

o) Tunga sentensi mbili tofauti kudhihirisha maana mbili za kitawe 'somo'.

(alama2)

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p) Tambua shamirisho na chagizo katika sentensi hii. (alama 2)

Juma alimjengea nyanya nyumba kwa mawe vizuri sana.

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D. ISIMU JAMII (ALAMA 10)

a. Eleza kwa ufupi jinsi mambo yafuatayo yanavyothibiti mitindo ya lugha.

Mazingira (alama 4)

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Madhumuni (alama 2)

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Malezi (alama 4)

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

102/3

Kiswahili (Fasihi)

Paper 3

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

MAAGIZO KWA WATAHINIWA

- a) Andika jina lako, shule, nambari ya mtihamu kisha utie sahihi katika nafasi ulizoachiwa hapo juu
- b) Jibu maswali manne pekee
- c) Swali la kwanza ni la lazima
- d) Maswali hayo mengine matatu yachaguliwe kutoka sehemu nne zilizobaki yaani Riwaya, Tamthilia, Hadithi fupi na Ushairi
- e) Usijibu maswali mawili kutoka sehemu moja.

KWA MATUMIZI YA MTAHINI PEKEE

SWALI	UPEO	ALAMA
1.	20	
	20	
	20	
	20	
	JUMLA	

SEHEMU A. RIWAYA YA CHOZI LA HERI

1. “ ...na ikitokea kwamba atauliza swali anakuwa mpokezi wa makonde ,vitisho na matusi ?”

- i. Eleza mukatadha wa dondoo hili. (Alama 4)
- ii. Taja na ueleze umuhimu wa tamathali ya usemi uliyotumika dondooni. (Alama4)
- iii. Mabadiliko ni aushi. Jadili kwa kurejelea riwaya nzima ya Chozi la Heri. (alama 12)

SEHEMU B. TAMTHILIA YA BEMBEA YA MAISHA. (Alama 20)

2. Eleza namna wahusika mbalimbali wanakabiliana na changamoto zinazowakumba katika tamthilia ya **Bembea ya Maisha** (alama20)

3. 'Nilikupata wapi? Mahututi!'

- (a) Eleza muktadha wa dondoo hili (alama4)
- (b) Bainisha mbinu mbili za kimtindo zilizomo kwenye dondoo (alama2)
- (c) Onyesha toni ya msemaji (alama2)
- (d) Jadili changamoto alizopitia msemewa wa maneno haya (alama12)

SEHEMU C. MAPAMBAZUO YA MACHWEO NA HADITHI NYINGINEZO

- 4. Wafanyikazi katika nchi nyingi zinazoendelea wanakumbwa na changamoto nyingi sana. Thibitisha hali hii kwa kurejelea hadithi ya " *harubu ya Maisha* (alama 20)
- 5. Ukombozi wa wanawake unakumbwa na vizingiti vingi sana. Jadili ukweli wa kauli hii ukirejelea hadithi ya sabina. (alama 20)

SEHEMU D. FASIHI SIMULIZI (ALAMA 20)

6. Dunia hadaa,ulimwengu shujaa.Mnachohitaji mlipofikia, ni ujasiri wa simba kuyakabili maisha.Adabu na bidii yenu leo, ni miche itakayozaa matunda, matunda matamu ya maisha mema kesho.Sitaki muziandame nyendo potovu . Mtakuwa mnajiponza wenyewe ; na hilo litakuwa sawa na kuutumbukiza mustakabali wenu kwenye shimo lenye kina kirefu na giza totoro.Jueni ujana ni moshi na ukienda haurudi.

- (a)
- i. Tambua kipera hiki na utoe ithibati. (Alama 2)
- ii. Ni sifa zipi za kipera hiki zilizojitokeza hapom juu. Eleza kikamilifu (alama 5)
- (b) Misimu hutumia mbinu anuwai katika uundaji wake. Taja tano na utolee mifano mwafaka.. (Alama 5)
- (c) Eleza mbinu ambazo ungetumia kufanikisha kipera hiki. (Alama 8)

7.

- a) Eleza maana ya miviga. (Alama 2)
b) Taja sifa tano za miviga. (Alama 5)
c) Pendekeza njia tatu za kuhifadhi kipera cha miviga. (alam 3)
d) Eleza udhaifu wa mbinu zifuatazoza ukusanyaji data ya fasihi simulizi.
(i) Hojaji (alama3)
(ii) Kushiriki (alama 3)
e) Fafanua matatizo yanayomkakabili mtafiti wa fasihi simulizi nyanjani. (alama 4)

SEHEMU E. USHAIRI

Swali 8.

Hakika siku ya leo, ni siku ya majivuno
Basi pasiwe na choyo, na usonono
Tulekezane yaliyo, unawiri Muungano.

Tuzisafisheni nyoyo, pasiwe na miguguno
Yaongoke tutakayo, kusiwe na mabishano
Mbegu hii tupandayo, ilete mema mavuno.

Tufungulie upeo, Mola usiye mfano
Pa kitasa na komeo, tupite bila kinzano
Tupitishe njia hiyo, pasina masongamano

Twakuomba uumbao, mkono vyanda vitano
Tushikane hii leo, tuwe moja tangamano
Tupendane kwa pumbao, hali na maridhiano

Aliye ana machukiyo, adui wa Muungano
Naazibe masikiyo, asisikie maneno
Kisha awe kibogoyo, asiwe na moja jino.

Ya Ilahi ujalie, juu wetu Muungano
Nuru yake izagae, na nguvu za mapigano
Hasidi mpe hakie, mateso yaso mfano

Watamati komeleo, kuimba kwangu hukuno
Nataka maendeleo, yasiyo na malumbano
Daima tuwe ni ngao, palipo msagurano

- (i)** Huku ukitoa mifano thibitisha kuwa shairi hili ni sala. **(alama 4)**
- (ii)** Liweke shairi hili katika bahari mbili ukitumia: **(alama 2)**
- Idadi ya
- (i)** Mishororo
- (ii)** Vina
- (iii)** Onyesha muundo wa shairi hili. **(alama 5)**
- (iv)** Andika ubeti wa pili kwa lugha ya nathari. **(alama 3)**
- (v)**ukitoa mifano eleza umuhimu wa idhini zifuatazo kama zilivyotunika katika shairi. **(Alama 4)**
- a)** Inkisari
- b)** Mazda
- c)** Kuboronga sarufi
- d)** Tabdila
- (vi)** Eleza maana ya maneno yafuatayo kama yalivyotumika katika shairi. **(alama 2)**
- (i)** Usonono –
- (ii)** Msagurano –

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

443/1

Agriculture

Paper 1

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO STUDENTS

- (a) Write your name and index number in the spaces provided at the top of this page.
- (b) Sign and write the date of the examination in the spaces provided.
- (c) This paper consists of three sections: **A**, **B** and **C**.
- (d) Answer all questions in sections **A** and **B**.
- (e) Answer any two questions in section **C**.
- (f) All answers should be written in the spaces provided.

FOR EXAMINER'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 – 19	30	
B	20– 23	20	
C		20	
		20	
	TOTAL SCORE	90	

SECTION A- (30 MARKS)

Answer all questions in the spaces provided

- 1) State the **three** forms in which horticulture is practiced in Kenya (1½ marks)

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- 2) Identify **two** ways in which agriculture support agro based industries (1 mark)

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- 3) List down **three** biotic factors that influence agriculture negatively (1½marks)

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- 4) Name any **three** crops that can be propagated by use of suckers (1½marks)

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- 5) Outline **four** roles of trees in soil conservation (2 marks)

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- 6) Identify **two** examples of intensive farming systems practiced in crop production (1 mark)

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7) Outline **four** ways in which living organisms contribute to soil formation (2 marks)

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8) Give **four** reasons that may necessitate sub soiling to be carried out on a piece of land (2 mks)

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9) Name any **four** physical methods of water treatment (2 marks)

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10) Give **three** reasons why green manure is not commonly used (1½marks)

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11) Name **two** types of labour records that can be kept by a large scale plantation farmer. (1 mark)

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12) Outline **four** areas that should be avoided when collecting a soil sample for testing (2 marks)

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13) Differentiate between a seed bed and a seedling bed

(1 mark)

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14) Name **three** field practices that are used to support weak stemmed crops

(1½ marks)

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15) Give **four** reasons that would make a farmer choose a jembe during land preparation over a disc plough

(2 marks)

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16) Give a reason why use of organic manure is discouraged in carrot production

(1 mark)

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17) Outline **four** advantages of zero grazing as a system of grazing

(2 marks)

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18) Identify **four** sources of credit facilities where one can get capital to carry out crop production

(2 marks)

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19) Name any **three** fertilizer elements

(1½ marks)

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SECTION B (20 MARKS)

Answer all questions in this section.

20) The following are photographs of weeds obtained from the farm



i) Identify the weeds

(2 marks)

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ii) State **one** major disadvantage of weed labeled A (1 mark)

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iii) Give **two** reasons why weed C is difficult to control. (1 mark)

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iv) State **one** economic importance of the weed labeled (B) to human beings (1 mark)

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21)The table below shows weekly demand for rice in am market

Price (ksh)	Quantity demanded (kgs)
10	250
9	350
8	550
7	600
6	700
5	1000
4	1500

a) Calculate the elasticity of demand (Ed) for rice when the price falls from Kshs. 10 to Kshs. 9 per Kg. (show your working) (3 marks)

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b) Other than price state any other factor that may factor that may increase the demand for rice in the market (2 marks)

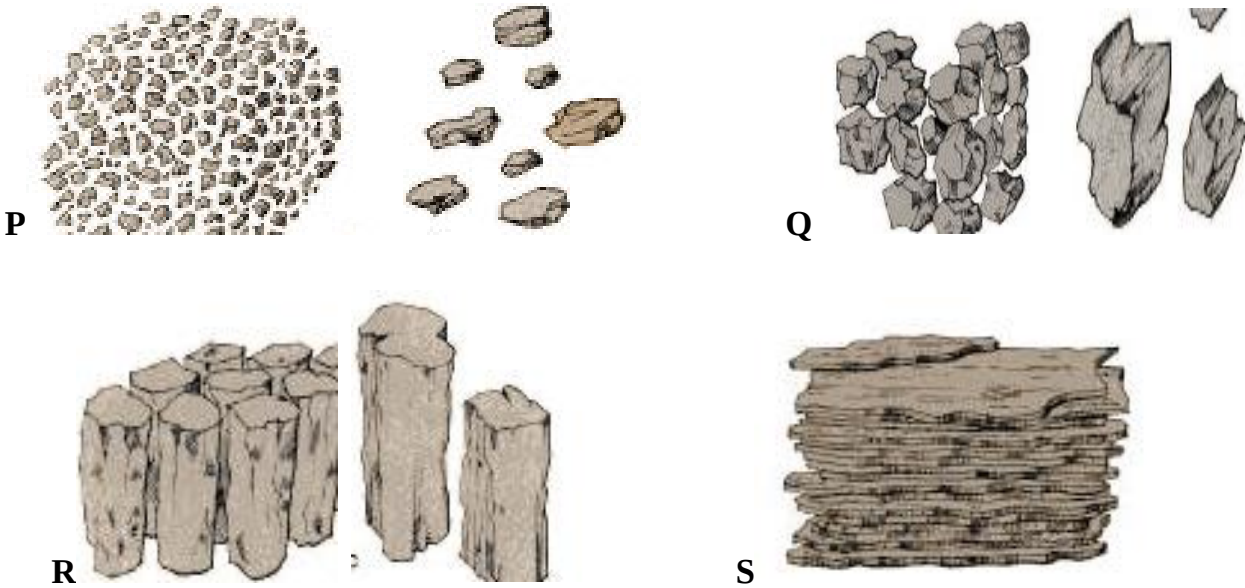
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22)The following diagrams shows various samples of soil aggregates



a) Identify the type of soils structures (2marks)

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b) Briefly explain how soil structures P can be improved (1mark)

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c) Name two places where soil structure labeled S can be found (2 marks)

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23) Study the following photographs and use them to answer the question that follows



a) Identify the type of irrigation shown in the photograph (1 mark)

.....

b) State any **two** advantages of the above method of irrigation (2 marks)

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c) Other than the one shown above identify any other **two** methods that a farmer can use to irrigate his crops (2 marks)

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SECTION C – 40 MARKS)

Answer any two questions and answer them in the spaces provided after question 26

- 24) a)** A farmer has 30 hectares of arable land, 20 hectares of which is planted with maize and 10 hectares with grass hay. He wishes to replace 10 hectares of maize with Irish potatoes next year. The fertilizer rate will have to be increased from 2 bags per hectare for maize to 4 bags per hectare for potatoes. As a result of the change extra 40 men days of casual labour per hectare will be necessary at the rate of Kshs.100 per man a day. The average yield per hectare of maize is 35bags and for potatoes 120bags. The price paid is Kshs.1, 000 per bag of maize and Kshs.600 per bag of potatoes. Maize seeds cost Kshs.750 per hectare and potatoes cost Kshs.800 per hectare. Fertilizer costs are Kshs. 650 per hectare.
- i)** Draw up a partial budget and advise the farmer accordingly. **(9 marks)**
 - ii)** Name the other type of budget that can be prepared by a farm **manager** **(1 mark)**
 - b)** Discuss the various problems associated with land fragmentation **(6 marks)**
 - c)** Explain **four** environmental factors that affect the effectiveness of herbicides **(4 marks)**
- 25. a)** Discuss the various cultural practices carried by farmers to control pests **(10marks)**
- b)** Discuss the production of dry beans under the following headings
- (i)** Varieties **(2 marks)**
 - (ii)** Selection of planting materials **(3 marks)**
 - (iii)** Postharvest practices of dry beans **(5 marks)**
- 26 a)** Describe harvesting of pyrethrum under the following subheading
- i)** Method and procedure **(3 marks)**
 - ii)** Precautions **(3 marks)**
 - b)** State **five** characteristics of nitrogenous fertilizers **(4marks)**
 - c)** Explain **five** factors to consider when designing a crop rotation programme **(10 marks)**

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

443/2

Agriculture

Paper 2

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES:

- Write your **name** and **admission number** in the spaces provided.
- Write the **date** of examination in the spaces provided
- This paper consists of three section **A**, **B** and **C**
- Answer all questions in section **A** and **B**
- Answer any two questions in section **C**

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAX SCORE	CANDIDATES SCORE
A	1-16	30	
B	17-21	20	
C	22-24	20	
		20	
TOTAL SCORE		90	

SECTION A

Answer all questions

1. List three types of calf pens (½ mks)

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2. Name four breeds of dairy goats . (2mks)

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3. State three factors that would determine the effectiveness of an acaricide . (1 ½ mks)

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4. Name one intermediate host for each of the following livestock parasites. (1mk)

a) Liver fluke

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b) Tape worm

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5. Give four reasons for feeding a lamb on colostrums . (2mks)

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6. Differentiate between the following tools.

a) Bastrad file and rasp file

(1mk)

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b) Copying saw and hacksaw.

(1mk)

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7. Why are the following conditions maintained during artificial incubation of eggs in poultry production.

a) Proper ventilation .

(1mk)

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b) Relative humidity at 60%

(1mk)

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8. State any four functions of proteins in animals .

(2mks)

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9. Give two factors that would affect digestibility of a given feedstuff in livestock.

(1mk)

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10. Mention two methods of carrying out bloodless castration in a calf . **(1mk)**

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11. Give four reasons why flushing is encouraged in sheep production. **(2mks)**

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12. Name four breeds of rabbit reared for meat production in Kenya. **(2mks)**

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13. State two functions of water in the body of an animals . **(1mk)**

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14. State two predisposing factors for mastitis in dating cattle. **(1mk)**

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15. State four maintenance practices that should be carried out on an axe. **(2mks)**

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16. State four factors that influence quality of honey . **(2mks)**

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17. List down three characteristics of succulent roughage for livestock feeding . **(1½ mks)**

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18. State three possible measures for controlling liver flukes infestation in a livestock form .

(1½ mks)

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19. Give two reasons why jersey breed of cattle is better suited to marginal areas than freshian

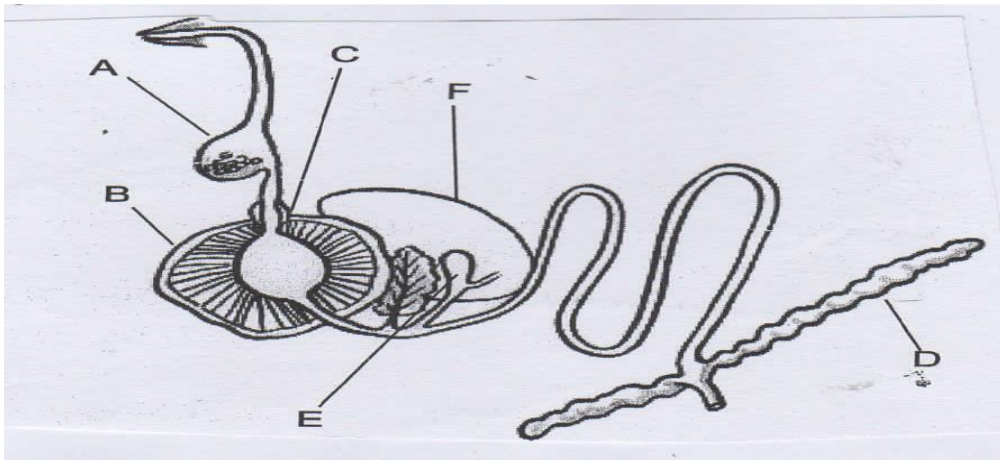
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SECTION B

20. The diagram below illustrates the digestive system of a chicken. Study it carefully and answer the questions that follows.



a) Name the labeled A, B, C, D, E and F

(3mks)

- A**.....
B.....
C.....
D.....
E.....
F.....

b) State one function for each of the parts labeled A, B and C

(3mks)

- A**.....
B.....
C.....

c) Give one reason why chickens are fed with insoluble grit.

(1mk)

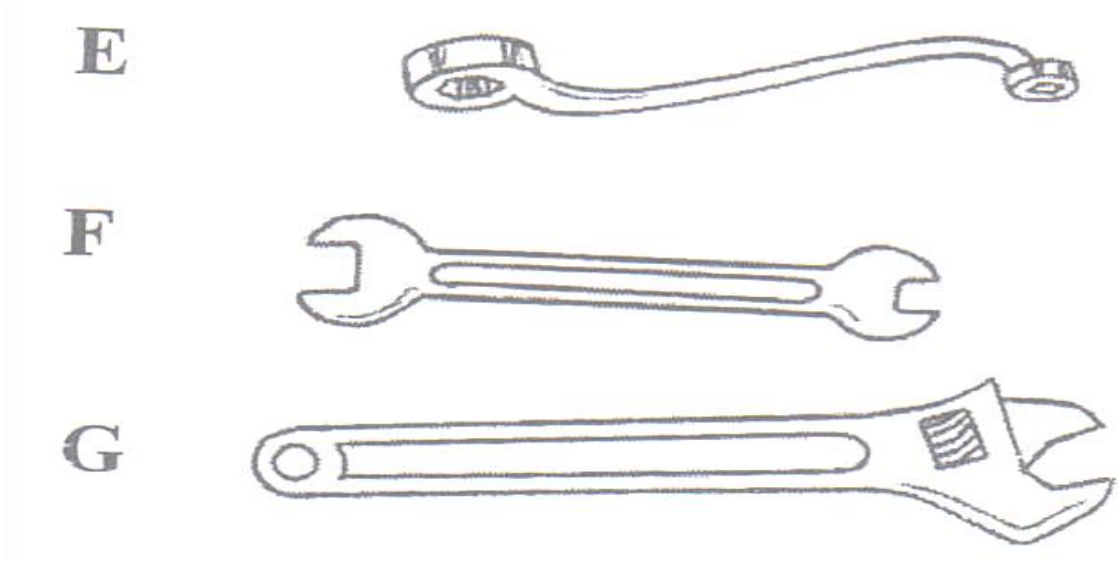
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d) What is the special function of part labeled D in the diagram above.

(1mk)

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21. The diagrams E,F and G illustrates various workshop tools . Study them and answer the questions that follow.



a) Identify the tools labeled E,F and G shown above. (3mks)

E.....
F.....
G.....

b) Give two functional differences between tool F and G (2mks)

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c) State two maintenance practice that should be carried out on the tool labeled. (2mks)

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22. The following diagram illustrates a symptom of a disease in poultry. Study it carefully and answer the questions that follow.



- a) Identify
- i) The disease (½ mk)
- ii) The causal organism (½ mk)
- b) A part from lesions . State two other symptoms of the disease (2mks)
- c) State two control measures for the disease. (2mks)

SECTION C

23. Describe the feeding practices carried out on a calf from birth to weaning. (10mks)
- c) Describe management practices that would ensure clean milk production in a dairy farm.(10k)
24. a.i) Describe four functions of a gearbox. (4mks)
- ii) State four factors to consider when selecting materials for constructing a calf pen . (4mks)
- iii) Give four maintenance practices that should be carried out on permanent calf pen. (4mks)
- b) State factors considered when culling livestock. (8mks)
25. a) State five control measures of cannibalism (8mks)
- b) Describe five conditions brought about by mineral deficiency. (6mks)
- c) **Outline** disadvantages of animal draw implements as compared to tractor drawn implements. (6mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

565/1

Business Studies

Paper 1

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTION TO CANDIDATES

- a) Write your name, School and Index No. in the spaces provided above.*
- b) Sign and write the date of examination in the spaces provided above.*
- c) Answer all questions in the spaces provided in this booklet.*
- d) Candidates should answer the questions in English.*

FOR EXAMINER'S USE ONLY

Qns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Marks															

16	17	18	19	20	21	22	23	24	25	Total

Answers all questions

1. Outline four factors that may lead to dishonoring of a cheque (4 marks)

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2. State four circumstances when a high population growth rate may be desirable.(4 marks)

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3. Highlight four benefits that accrue to an entrepreneur who prepares a business plan.(4 marks)

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4. Give four differences between ordinary shares and preference shares. (4 marks)

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5. State four reasons why the government issues licenses to business people. (4 marks)

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6. Outline four factors that would influence the amount of money held by an individual for transaction purpose. (4 marks)

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7. Name the international trade documents that relates to each of the following statements:(4 ks)

	Statement	Document
(a)	Gives details about the origin of the goods.	
(b)	Gives title to the goods traded.	
(c)	Used to place the order for goods to be imported from a specific exporter.	
(d)	Written by a commercial attaché of the importing country showing current prices of goods being exported.	

8. State four problems that are usually encountered in the formulation stage of a development plan. (4 marks)

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9. Give four circumstances when pipeline would be more preferred as a means of transport. (4 mk

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10. Name four source documents which are used to provide information used to make entries in the books of accounts. (4 marks)

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11. Complete the table below for business A, B, C and D.

BUSINESS	ASSETS	LIABILITIES	CAPITAL
A	W	250,000	700,000
B	85,000	30,000	X
C	420,000	Y	120,000
D	600,000	175,000	Z

12. State four benefits a trader receives from warehousing. (4 marks)

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13. Highlight four emerging issues in communication. (4 marks)

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14. State four factors that influence the fertility rate of a population. **(4 marks)**

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15. Outline four expenditure items that are included in the measurement of national income under the expenditure approach. **(4 marks)**

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16. The following information relates to Kawira Traders on 31st January 2018:

Opening stock	40,000
Purchases	480,000
Gross profit	100,000
Mark-up	25%

Calculate:

(a) Closing stock. **(2 marks)**

(b) Rate of stock turnover for the year. **(2 marks)**

17. Highlight four ways in which the demographic environment affects the performance of the business. **(4 marks)**

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18. State four factors to consider when making a choice of channel to use in distributing locally produced agricultural products. **(4 marks)**

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19. Outline four benefits received by a student who finished form four and had done business studies as a subject. **(4 marks)**

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20. Indicate which accounts to be debited and which accounts to be credited from the following transactions: (4 marks)

	Transaction	A/c Dr	A/c Cr
(a)	Proprietor took cash Sh. 18,000 and paid rent		
(b)	Brought in personal table and made it to be a business asset.		
(c)	A debtor paid Sh 80,000 by cheque.		
(d)	Transferred Sh 20,000 to a private bank account.		

21. Matuu Wholesalers insured their business worth Ksh. 2,850,000 for Ksh. 2,300,000 against fire. Eight months later, fire destroyed the business leading to a loss of Ksh. 1,248,000. Calculate what the insurance company compensated the business (4 marks)

22. Give four trends and emerging issues in office management. (4 marks)

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23.Highlight four decisions made when deciding which goods and services to produce.(4 marks)

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24. Outline how the following utilities are fulfilled: (4 marks)

	Utility	How it is fulfilled
(a)	Place	
(b)	Form	
(c)	Time	
(d)	Possession.	

25. Outline four factors that a county government should consider before spending their county money. (4marks)

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

565/2

Business Studies

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- *This paper consists of six questions*
- *Answer any **five** questions*
- *All question carry equal marks*

FOR EXAMINER'S USE ONLY

Question No	1	2	3	4	5	6	TOTAL
Marks							

Answer any **five** questions

1. (a) Explain **five** negative effects of inflation (10mks)
(b) Explain **five** circumstances under which an insurance contract may be terminated (10 mks)
2. (a) Explain **five** ways in which transport promotes the growth of trade. (10mks)
(b) On 1st march 2017 Kamau had cash in hand Ksh 7,800 and a bank overdraft of Ksh 24,300.
During the month, the following transactions took place
March 3 cash sales paid directly into the bank Ksh 16,500
4 bought goods for Ksh 15,000 and paid by cheque
6 cash sales Ksh. 50,000
9 received a cheque of ksh 18,000 from Amolo in full settlement of his debt
13 paid insurance premiums of Ksh 16,000 in cash
15 paid Kamotho by cheque Ksh 9,700 in full settlement of his account less 3% cash discount
21 withdrew Ksh 30,000 from bank for office use
24 received a cheque of Ksh23,750 from Rotich in full settlement of his account less 5% cash discount
25 paid wages in cash Ksh 20,000
30 banked all cash except Ksh 3,000
Required: prepare a three column cash book
3. (a) Explain **five** types of wholesalers who may be found in our country today (10mks)
(b) Explain **five** ways through which the Central Bank regulates economic activities in the Country (10mks)
4. (a) Explain **five** ways of solving unemployment in Kenya (10 mks)
(b) Explain **five** merits of proper filing of documents in an organization. (10mks)
5. (a) Explain **five** short comings of using per capita income as a measure of economic welfare (10ks)
(b) Explain **five** benefits that may accrue to a country from trading with other countries. (10 mks)

6. (a) Demand for bananas in a certain market has been declining over time.

Explain **four** factors that may be responsible for this trend.

(8 mks)

(b) The following balances were extracted from the books of Nakuru Enterprises as at

30th June, 2022.

Shs

Sales	400,000
Stock (1 st July, 2021)	5,000
Stock (30 th June, 2022)	8,000
Discount received	13,000
Discount allowed	6,000
Insurance premium	4,000
Premises	300,000
Fixtures and fittings	200,000
Carriage inwards	7,000
Carriage outwards	3,000
Bank loan	23,000
Bank overdraft	50,000
Creditors	30,000
Cash in hand	10,000
Debtors	12,000
Drawings	14,000
Capital	340,000
Gross profit margin	25%

Prepare;

i) Nakuru Enterprises profit and loss account for the year ended 30th June 2022. **(6 mks)**

ii) Nakuru Enterprises Balance sheet as at 30th June 2022. **(8 mks)**

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

233/1

Chemistry (Theory)

Paper 1

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- Write your name and admission number in the spaces provided.
- Answer **all** questions in the spaces provided
- KNEC mathematical tables and silent electronic calculators **may** be used for calculations.
- All workings **must** be clearly shown where necessary.

FOR EXAMINERS USE ONLY

QUESTIONS	MAXIMUM SCORE	STUDENTS SCORE
1-29	80	

Answer **all** questions in the spaces provided

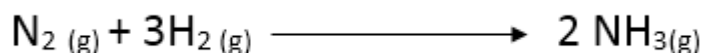
1. (a) Explain why aluminium is a better conductor of electricity than magnesium. (1 mark)

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.....

- (b) Other than cost and ability to conduct, give two other reasons why aluminum is used for making overhead electric cables while magnesium is not. (1 mark)

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2. In the Haber process, the industrial manufacture of ammonia is given by the following equation:



- (a) Name one source of hydrogen gas used in this process. (1 mark)

.....

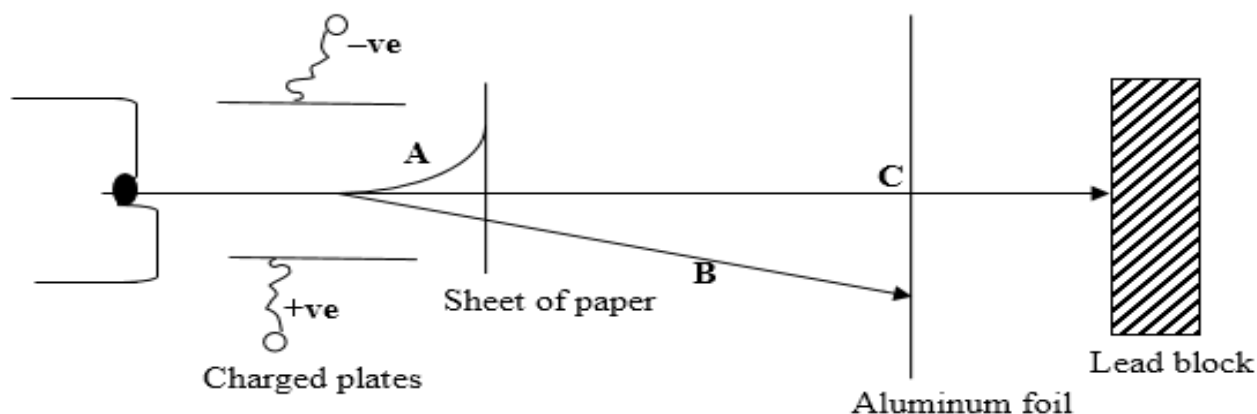
- (b) Name the catalyst used in the above reaction. (1 mark)

.....

- (c) State any two uses of ammonia. (1 mark)

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

3. Use the diagram below to answer the questions that follow:



a) Identify the radiations. (1 mark)

A.....

C.....

b) The table below gives the rate of decay for a sample of radioactive element **K**. Study it and answer the question that follows:

Mass (kg)	Time(Days)
72	0
9	120

Determine the half-life of element K. (2 marks)

.....
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4. The pH values of some solutions labeled **K,H,L,P and R** are given in the table **below**. Use the information to answer the questions that follow.

pH	8.0	14.0	1.0	6.5	7.0
Solution	K	H	L	P	R

(a)Identify the solution with the highest concentration of hydroxyl ions. (1 mark)

.....

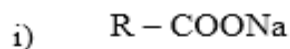
(b)Which solution is likely to be sodium chloride solution? (1 mark)

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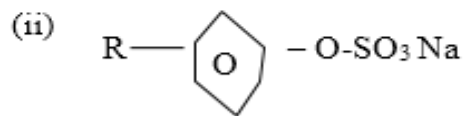
(c)Which solution would react most vigorously with magnesium metal? (1 mark)

.....

5.a) Name the class to which the following cleansing agents belong: (1mark)



.....



.....

b) Which cleaning agent between (i) or (ii) above is preferred for cleaning garments while using water from a dam containing dissolved calcium chloride? Explain (2 marks)

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6. Describe how crystals of sodium chloride can be prepared starting with 50cm³ of 2M sodium hydroxide solution. (3marks)

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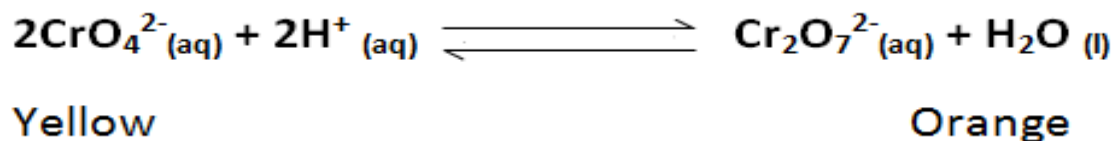
7.a) Propane (C₃H₈) and Carbon(IV)oxide (CO₂) diffuses at the same rate under the same conditions. Explain. (1 mark)

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.....

b) Propane is a hydrocarbon. What does the term hydrocarbon mean? (1 mark)

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8. The reaction between hydrochloric acid and potassium dichromate (VI) can be used to demonstrate a reversible reaction. The ionic equation is given below



Explain the observation that would be made when few drops of dilute hydrochloride acid is added to the equilibrium mixture. (2marks)

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9. a) Draw a diagram to show how an iron ring can be electroplated with pure silver. (2marks)

b) Give two reasons why electroplating is necessary. (1 mark)

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10.(i) State **two** observations that can be made when burning magnesium is lowered in a gas jar full of chlorine. (2 marks)

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(ii) Write a chemical equation for the reaction that occurs in (i) above. **(1 mark)**

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11. The products formed by action of heat on nitrates of element X, Y and Z are shown below.

Nitrate of	Products formed
X	X oxide +Nitrogen (IV) Oxide + Oxygen
Y	Y +Nitrogen (IV) Oxide+ Oxygen
Z	Z nitrite + oxygen

a) Arrange the metals in order of increasing reactivity. **(1 mark)**

.....

b) Which element forms a soluble carbonate? **(1mark)**

.....

c) Give an element that can be Y. **(1 mark)**

.....

12.3.0g of an organic compound containing Carbon, hydrogen and oxygen only produced 4.4g of Carbon (IV) oxide and 1.8g of water on complete combustion.

a) Calculate its empirical formula. **(2 marks)**

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b) Calculate in molecular formula if its formula mass is 60. **(1 mark)**

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13. 100cm^3 of 0.05M Sulphuric (VI) acid were placed in the flask and small quantity of potassium Carbonate added. The mixture was boiled to expel all carbon (IV) oxide. 25cm^3 of the resulting solution required 18cm^3 of 0.1M potassium hydroxide solution to neutralize it. Calculate the mass of potassium carbonate added. ($\text{K} = 39$, $\text{O} = 16$, $\text{C} = 12$) **(3 marks)**

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14. A sample of air contains nitrogen, oxygen and argon. Describe how oxygen gas can be obtained. **(3 marks)**

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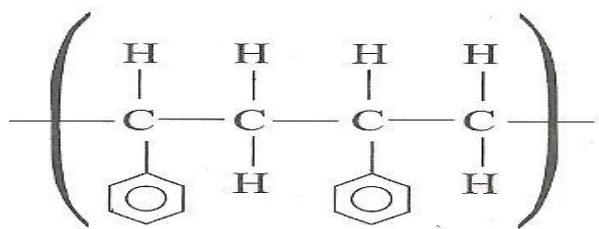
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15. a) Draw the structures of the following compounds. **(2 Marks)**

i) Ethylbutanoate

ii) 3-ethyl – 3 – methyl hexane

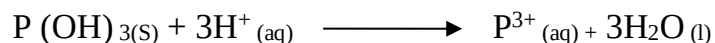
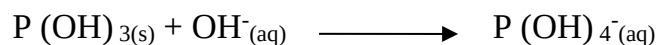
iii) The structure below represents a portion of polyphenylethene.



Draw the structure of the monomer and name it.

(1mark)

16. A compound whose general formula is $P(OH)_3(s)$ reacts as shown by the equation:



(a) Name any two **elements** whose hydroxides behave like P.

(2 marks)

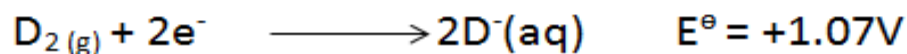
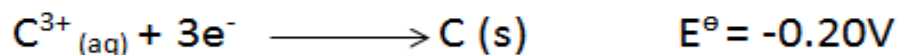
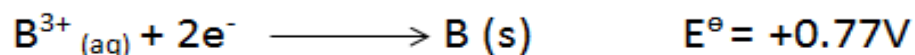
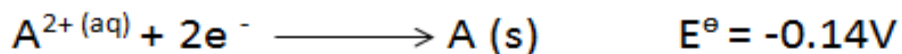
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(b) What name is given to compounds which behaves like $P(OH)_3$ in the above two reactions.

(1 mark)

.....

17. You are provided with the following electrode potentials of four half-cell reactions. Letters do not represent the actual symbol of the element.



(a) Identify the strongest reducing agent. Explain.

(2marks)

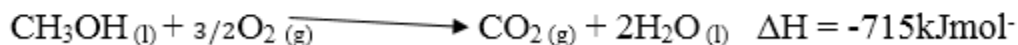
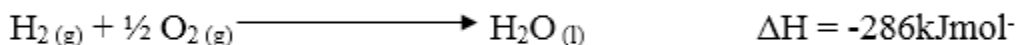
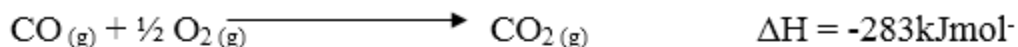
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(b) Calculate the emf of the two half cells that when combined would produce the largest emf.

(1 mark)

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18. Use the following information to answer the questions that follow.



a) Draw an energy cycle diagram and label the various heat changes.

(2 marks)

b) Use the energy cycle above to calculate heat of formation of methanol.

(1 mark)

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19. The solubility of iron (II) sulphate at 22°C is 15.65g/100g of water. Calculate the mass of iron (II) sulphate crystals in 90g of saturated iron (II) sulphate solution. (2marks)

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20.Which Use the information in the table below to answer the questions that follow.
(The letters do not represent the actual symbols of the elements).

Element	Q	P	R	S	T
Atomic number	18	5	3	5	20
Mass number	40	10	7	11	40

(a) Which **two** letters represent the same element. 1mk

.....

(b) Give the number of neutrons in an atom of element **R** 1mk

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21. A solid sample was suspected to contain zinc (II) ions. Describe a systematic test to confirm the presence of zinc (II) ions. (3 Marks)

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22. During the electrolysis, a current of 2 amperes was passed through the copper (II) sulphate solution for 4 hours. Calculate the volume of the gas produced at the anode. (1 F = 96500 C, MGV = 24000 cm³). (3 marks)

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23. A volume of 10 cm³ of ethene gas (C₂H₄) was exploded with 50 cm³ of oxygen.

(i) Write the equation of the reaction for the combustion of ethene. (1mk)

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(ii) Calculate the volume of gaseous mixture. (2marks)

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24.a) What is a fuel? (1 mark)

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b) Ethanol has a molar heat of combustion of -1360 kJ mol⁻¹. Calculate the heating value of ethanol. (C=12, H=1, O=16) (2 marks)

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25.a) Why is the percentage of carbon (IV) oxide in the atmosphere fairly constant? (1 mark)

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(b) Calculate the volume of carbon(IV)oxide in 8,000 m³ of air contained in a hall.(2 marks)

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26. State two conditions that would make the boiling point of water to be higher than 100°C.

(2marks)

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27a) Name two substances that can be used in chemical test for water.

(1mark)

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b) Describe how a student can determine the purity of tap water in a school laboratory (2marks)

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28. Sodium hydroxide can be prepared through the following methods: I and II.

I Sodium metal $\xrightarrow{\text{cold water}}$ Sodium hydroxide + Hydrogen gas

II Concentrated sodium chloride $\xrightarrow{\text{process A}}$ Sodium hydroxide + Chlorine gas + hydrogen gas

a) Name one precaution that needs to be taken in method I. (1 mark)

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.....

b) Give the name of process A. (1 mark)

.....

c) Describe the chemical test of hydrogen gas. (1 mark)

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29. i)What does CFCs mean? (1 mark)

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.....

ii) State one environment effect of CFCs. (1 mark)

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

233/2

Chemistry (Theory)

Paper 2

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS

- ✓ Write your name and index number in the spaces provided above.
- ✓ Sign and write the date of examination in the spaces provided above.
- ✓ Answer **all** the questions in the spaces provided in the question paper.
- ✓ Electronic calculators may be used.
- ✓ All working **must** be clearly shown where necessary.

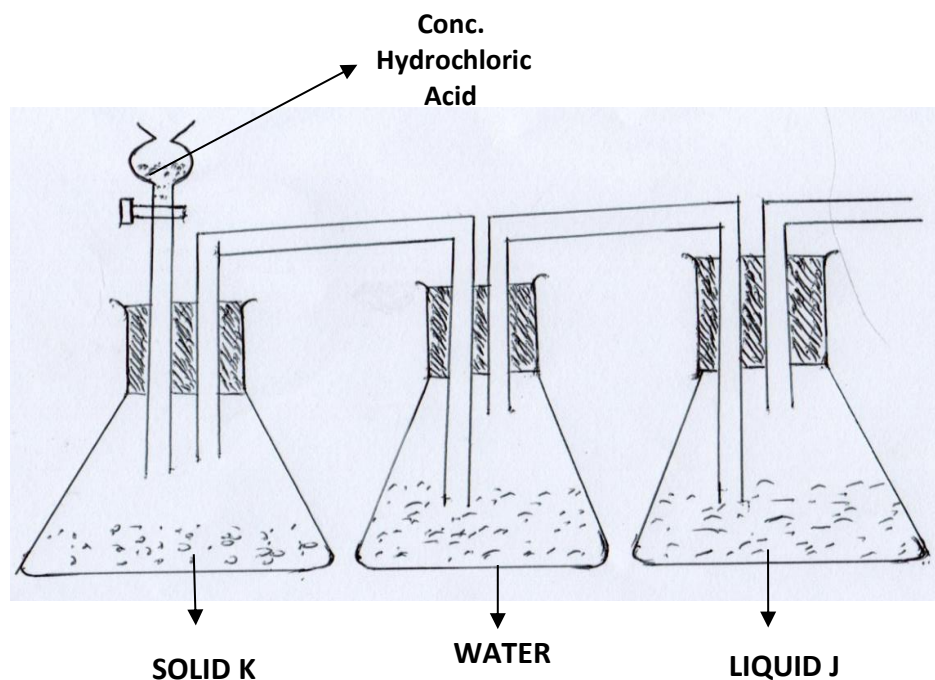
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Question	Maximum Score	Candidate's score
1	12	
2	12	
3	10	
4	11	
5	12	
6	14	
7	09	
Total	80	

For Marking Schemes Contact 0746-222-000 / 0742-999-000

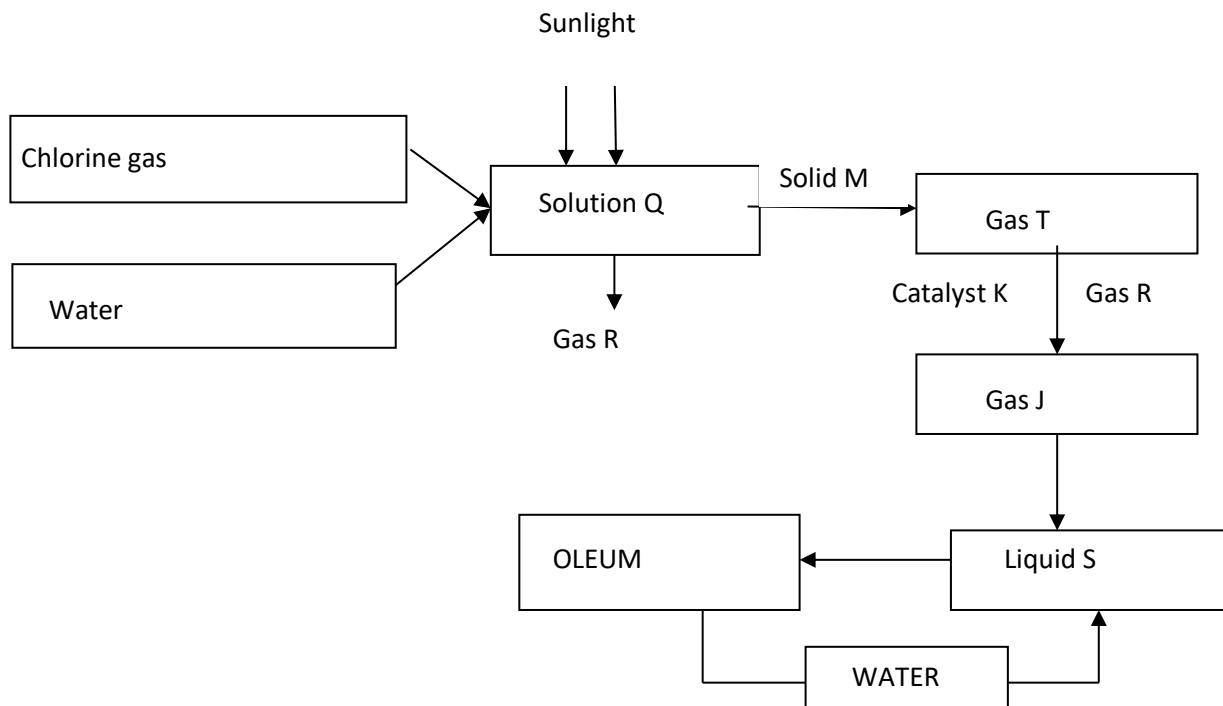
Answer **all** the questions

- 1)a. The diagram below shows a set up for laboratory preparation of chlorine gas. Study it and answer the questions that follow.



- i. Complete the set up to show how dry chlorine may be collected (1 mk)
- ii. Name Solid K..... (2 mks)
- Liquid J.....
- iii. State and explain the observation made when chlorine gas is bubbled through a solution of potassium iodide (2 mks)
-
-
-
- iv. Write an ionic equation for the reaction that occurs in iii) above (1 mk)
-
-

c) Study the flow chart below and answer the questions that follow



i). Identify the following; **Gas R**..... (2 mks)

Solid M.....

Gas J.....

Liquid S.....

ii. Write a chemical equation for the formation of gas T (1 mk)

.....

iii. Name catalyst K (1 mk)

.....

iv) State two uses of liquid S (2mks)

.....

2. The figure below represents a section of the periodic table. Study it and answer the questions that follow. The letters do not represent the actual symbols of elements.

B								
C			D	E			F	G
		Z						
H	J							

a) i).What chemical family does element J belong to? (1 mk)

.....

ii. Compare the reactivity of element C and H. Explain. (2 mks)

.....

b) i) Write the chemical formula of the chloride of element D (1 mk)

.....

ii) Name the type of structure of the chloride in b(i) above. (1 mk)

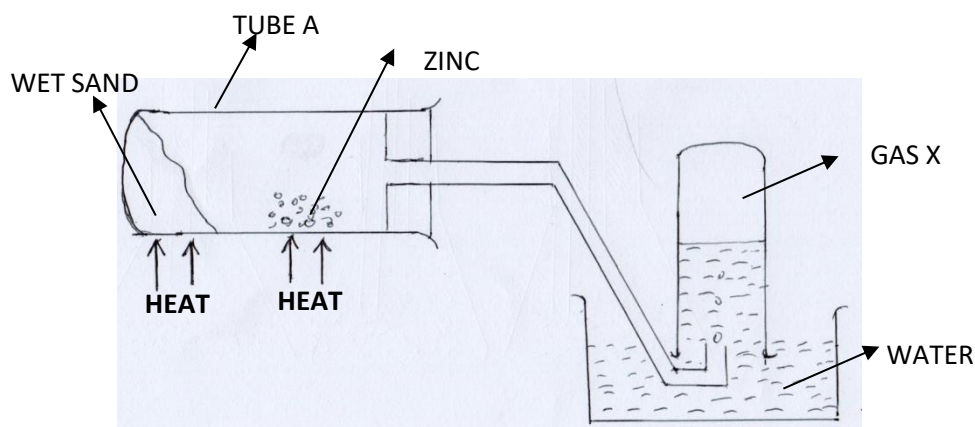
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c). State and explain the difference in atomic radius and ionic radius of element F (2 mks)

.....

d). Using dots (.) and crosses (x) show how bonding occurs when element E and F react. **(1mk)**

e). Study the diagram below and answer the questions that follow



i. State two observations made in the tube A **(2 mks)**

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.....
.....

ii. Explain why the sand is heated first before heating the zinc metal **(1 mk)**

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iii. Give the chemical test of gas X. **(1 mk)**

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3. a) Name the heat change represented by ΔH in the process represented below.



.....

b) The table below gives some bond energies of some bonds.

Bond	Bond energy (kJ mol ⁻¹)
H – H	435
Cl – Cl	243
H – Cl	431

Calculate the enthalpy changes for the reaction.



c) i) Define enthalpy of formation of a substance. (1mk)

.....

.....

ii) Given that

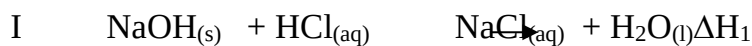
$$\Delta H^\theta_f(\text{C}_4\text{H}_{10(g)}) = -125 \text{ kJ mol}^{-1}$$

$$\Delta H^\theta_f(\text{CO}_{2(g)}) = -395 \text{ kJ mol}^{-1}$$

$$\Delta H^\theta_f(\text{H}_2\text{O}(l)) = -289 \text{ kJ mol}^{-1}$$

Calculate the molar heat of combustion of butane (C₄H₁₀) (2mks)

d) Study the following exothermic reactions involving enthalpy of neutralization



i) Identify the reaction with a higher ΔH value. Giving a reason for your answer. (2mks)

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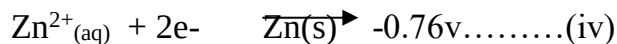
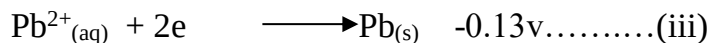
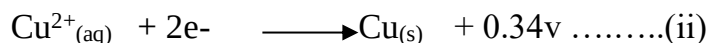
ii) The atomic numbers of Li and K are 3 and 19 respectively.



Study the equations above and explain why ΔH_3 is larger than ΔH_4 . (2mks)

.....

4. Use the standard electrode potentials given below to answer the questions that follow.



a) Select two half - cells which when combined will give the lowest e.m.f (1mk)

.....

b) Can a solution of silver nitrate be stored in a container of Zinc? (2mks)

.....

c) An iron jug was electroplated using Chromium. The chromium electrode and iron jug were thoroughly cleaned and weighed before being dipped into the electrolyte. Why was cleaning necessary? (1mk)

.....

.....

d) A current of 0.75 Amperes was passed through the solution for one hour and four minutes. The mass of chromium deposited on the jug was 0.52g
(1Faraday = 96500C Cr = 52)

(i) Calculate the quantity of electricity passed. (2mks)

(ii) How many moles in Chromium were deposited? (1mk)

.....

.....

.....

(iii) Calculate the quantity of electricity in coulombs required to deposit one mole of Chromium. (2mks)

(iv) Deduce the charge of the Chromium ion. (2mks)

5) a) An organic compound **G** whose empirical formula is HCO_2 has molar mass of 90. It reacts with ethanoic in the presence of a few drops of concentrated Sulphuric (VI) acid forming another compound **J** with a pleasant smell.

(i) **Determine** the molecular formula of compound **G** (2marks)

.....

(ii) **To which** class of homologous series do compound **G** and **J** belong? (2marks)

G:

J:

b) i. What is vulcanization of rubber? (1mk)

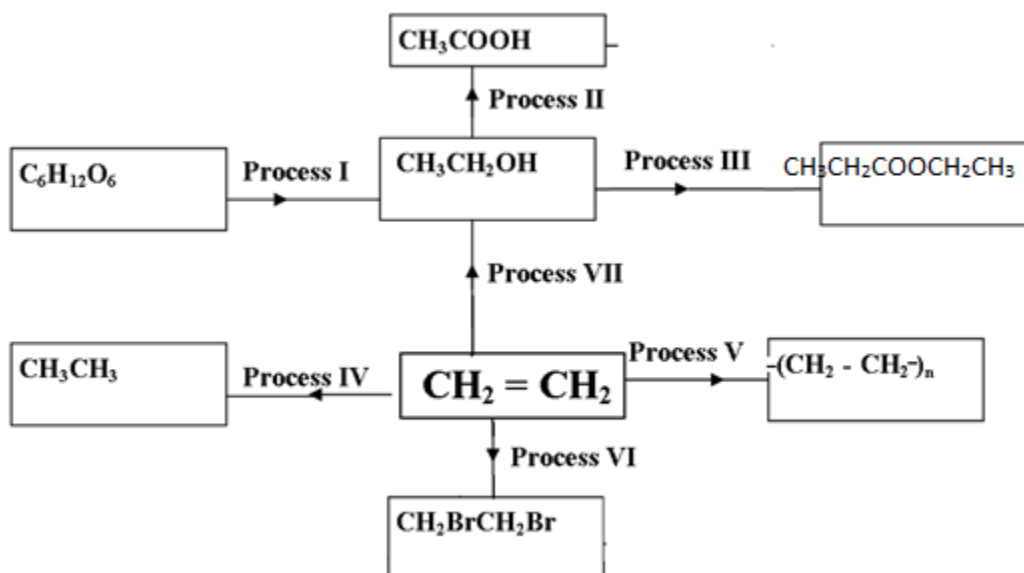
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i). **State** two properties of vulcanized rubber. (2mks)

.....

c) The scheme below shows various reactions and process for some organic compounds.

Study it and answer the questions that follow.



i. Name process I and name any other product formed in the process.

Process I

$\frac{1}{2}$ **mk**

.....

Product

$\frac{1}{2}$ **mk**

.....

ii) Name the reagent and condition required in process II.

Reagent

$\frac{1}{2}$ **mk**

.....

Condition

$\frac{1}{2}$ **mk**

.....

iii) Name the catalyst and reagent required in step IV.

Catalyst

$\frac{1}{2}$ **mk**

.....

Reagent

$\frac{1}{2}$ **mk**

.....

iv) Give any one use of the product formed in process (V)

(1mk)

.....

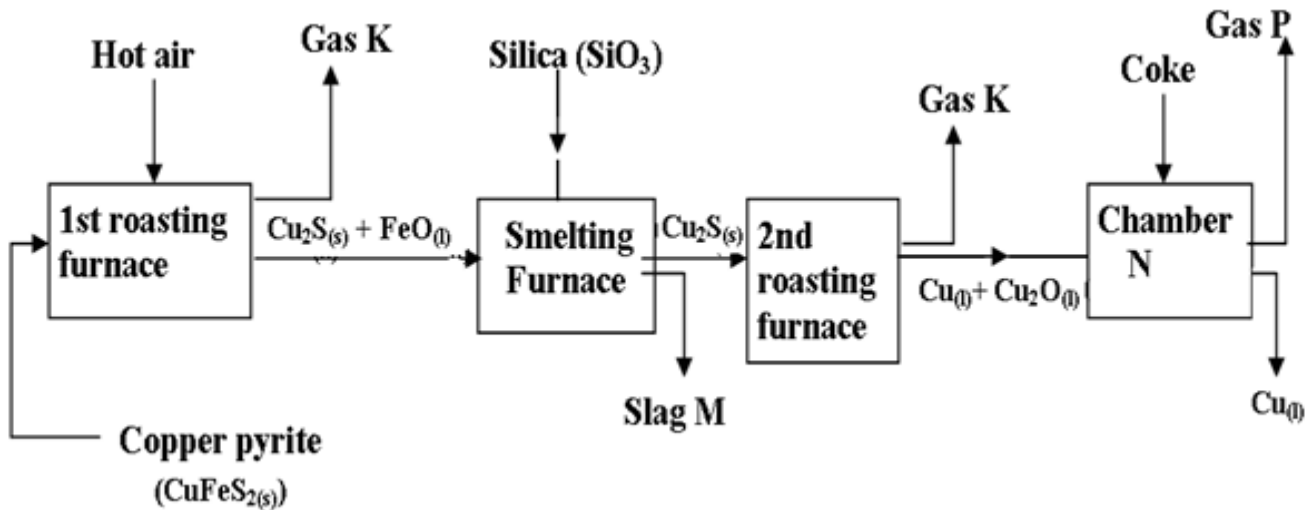
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v) Name process (VI)

(1mk)

.....

6. The flow chart below outlines some of the processes involved in extraction of copper from copper pyrites. Study it and answer the questions that follow.



(a)i. Name gas K (1mk)

.....

(ii)Write an equation for the reaction that takes place in the first roasting furnace. (1mk)

.....

(iii) Write the formula for the cation present the slag M. (1mk)

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(iv) Identify gas P. (1mk)

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(v)What name is given to the reaction that takes place in chamber N? (2mks)

Give a reason for your answer.

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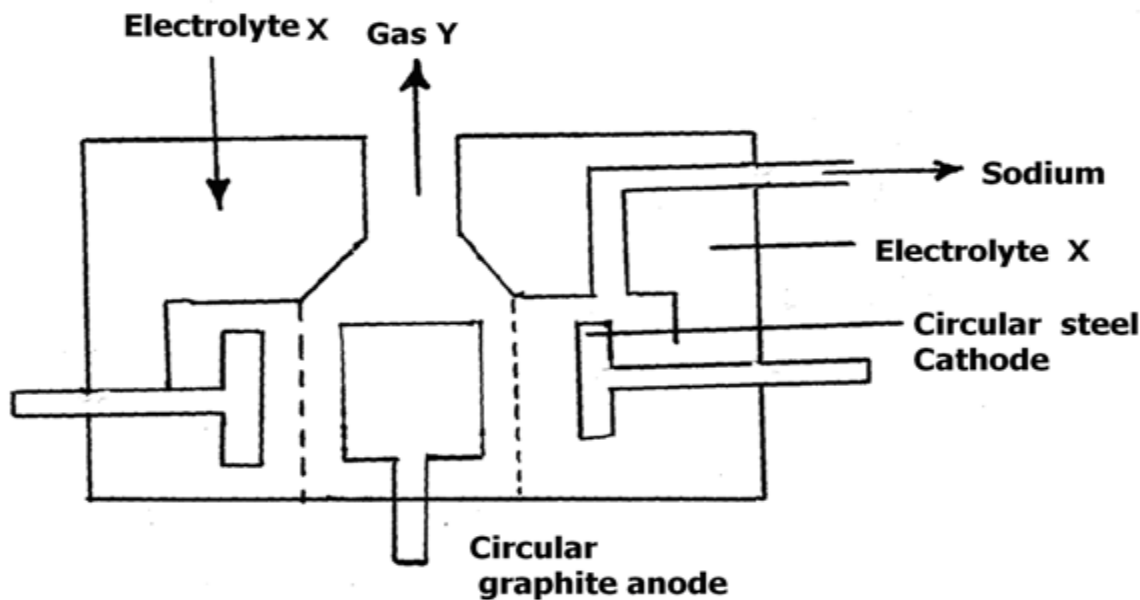
.....

vi) State two uses of copper metal (2mks)

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b) Below is a simplified diagram of the Downs cell in which sodium metal is manufactured.



(i) Identify electrolyte X and gas Y. (2mks)

Electrolyte XGas Y.....

(ii) Give two properties of sodium that make it possible to collect as shown above. (2mks)

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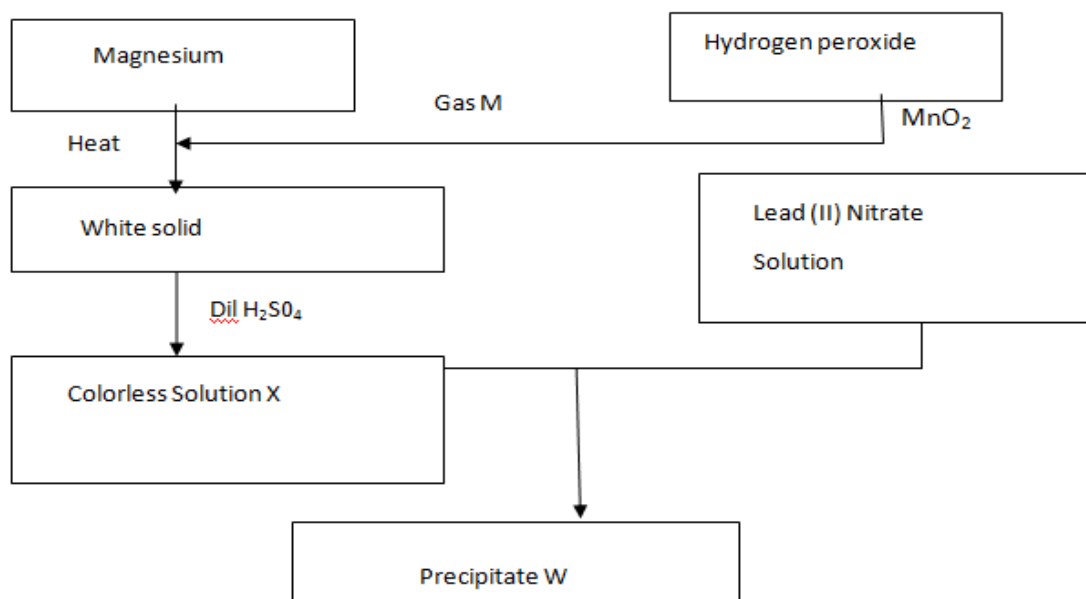
(iii) Why is graphite preferred to steel as the anode? (1mk)

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(iv) Explain how sodium hydroxide pellets would be obtained from sodium amalgam? (1mk)

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7) **Study** the reaction scheme below and answer the questions that follow.



a) Name; **Gas M**..... (1 mk)

Precipitate **W**..... (1 mk)

b) Write an equation for the formation of ;
The white **solid** (1 mk)

.....

Colorless solution X (1 mk)

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c) What name is given to the process that produce precipitate W (1 mk)

.....

d) State two commercial uses of gas M (2 mks)

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e) If 100cm³ of 0.05M hydrogen peroxide were used to produce gas M. calculate the volume of gas M produced if the hydrogen peroxide decomposed completely.(MGV= 22400cm³) (2mks)

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

233/3

Chemistry (Practical)

Paper 3

Time: 2¼ Hours

CONFIDENTIAL

In addition to the apparatus and fittings available in the chemistry laboratory, each candidate should have:

- *About 100cm³ of solution A*
- *About 100cm³ of solution B*
- *About 60cm³ of solution C*
- *One burette*
- *One pipette*
- *One thermometer*
- *0.5g of solid E*
- *0.5g of solid F*
- *Blue and red litmus papers*
- *0.2g of solid sodium hydrogen carbonate/sodium carbonate.*
- *Two conical flasks*
- *Five clean dry test tubes*
- *Test tube holder*
- *One 100 ml plastic beaker*
- *10 ml measuring cylinder*
- *50 ml measuring cylinder.*
- *1 boiling tube.*
- *Universal indicator paper.*
- *PH chart.*
- *250 cm³ plastic beaker.*

Access to:

- Source of heat
- Phenolphthalein indicator.
- Bromine water supplied with a dropper
- Acidified potassium manganate (VII) supplied with a dropper
- 2M sodium hydroxide supplied with a dropper
- 2 M sulphuric (VI) acid supplied with a dropper
- 2M lead (II) nitrate supplied with a dropper

Note:

- Solution A is 1 M sodium hydroxide
- Solution B is 0.128M hydrochloric acid
- Solution C is 1 M ethanoic acid
- Solid E is calcium chloride
- Solid F is oxalic acid

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

233/3

Chemistry (Practical)

Paper 3

Time: 2¼ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) Write your name and index number in the spaces provided above.
- b) Mathematical tables and electronic calculators may be used for calculations
- c) **All** working must be clearly shown where necessary
- d) Answer **all** the questions in the **spaces provided** in the question paper

FOR EXAMINER'S ONLY

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	22	
2	08	
3	10	
TOTAL	40	

1. You are provided with:

- Sodium hydroxide labelled solution **A**
- 0.128M hydrochloric acid labelled solution **B**
- Carboxylic acid labelled solution **C**

You are required to:

- a) Standardize solution **D** with solution **B**
- b) Determine the:
 - i. Reaction ratio between sodium hydroxide, solution A and the carboxylic acid, solution **C**
 - ii. Concentration of solution **C** in moles per litre.

Procedure1

Pipette 25 cm³ of solution A into a 250 cm³ beaker. Add distilled water to make up to 150 cm³.

Label this solution D.

Fill the burette with solution B. Pipette 25cm³ of solution **D** into a 250cm³ conical flask. Add 2 dropsofphenolphthalein indicator and titrate with solution **B**. Record your results in table 1.

Repeat the titration two more times and complete the table

Table 1

	I.	II.	III.
Final burette reading			
Initial burette reading			
Volume of solution B used (cm ³)			

(4 marks)

a) Determine the average volume of solution **B** used.

(1mark)

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b) Calculate the concentration in moles per litre of sodium hydroxide in:

I. Solution D

(2marks)

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II. Solution A

(1mark)

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Procedure 2

Using a clean burette, place 16cm³ of solution **C** into a 100 ml plastic beaker. Take the initial temperature of the solution and record it in table 2. Using a clean measuring cylinder, measure 4cm³ of solution **A** and add it to solution **C** in the 100ml beaker. Stir the mixture immediately with the thermometer and record in table 2 the maximum (final) temperature reached. Repeat the experiment with the other sets of volumes of **C** and **A** in table 2 and complete it.

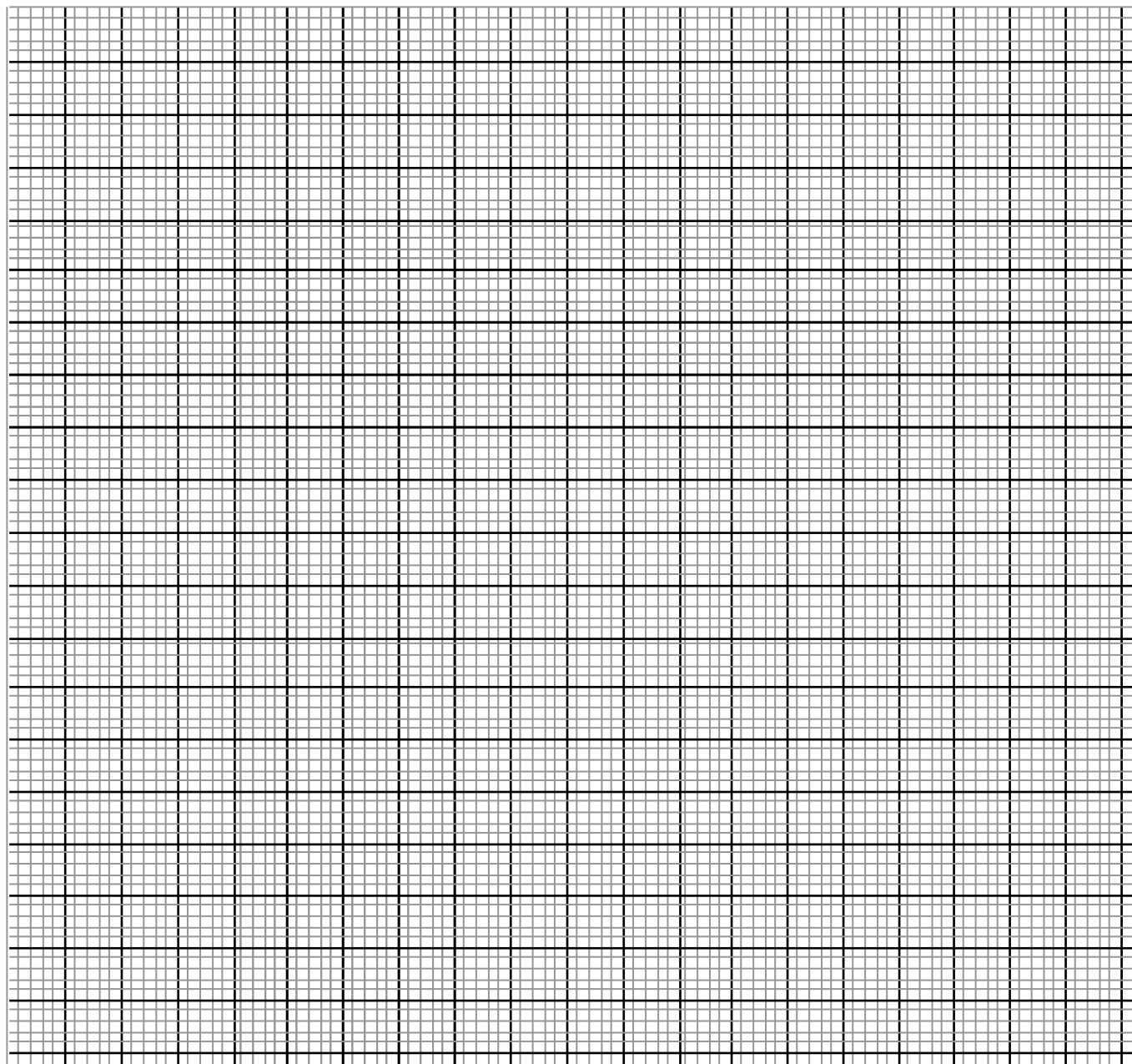
(Rinse the thermometer and the beaker with distilled water after each experiment. It is assumed that the initial temperatures for solution A and C are equal at room temperature.)

Table 2

Volume of solution C (cm ³)	16	12	8	6	4	2
Volume of solution A (cm ³)	4	8	12	14	16	18
Final temperature (°C)						
Initial temperature (°C)						
Change in temperature, ΔT (°C)						

(6marks)

- a) On the grid provided, plot a graph of ΔT (vertical axis) against the volume of sodium hydroxide, solution A (3marks)



- b) From the graph, determine the volume of sodium hydroxide, solution A required to neutralize the carboxylic acid (1mark)

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c) Calculate the volume of carboxylic acid, solution **C** used for neutralization (1mark)

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d) Calculate the:

i. Ratio between the volumes of solutions **A** and **C** (1mark)

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ii. Concentration in moles per litre of the carboxylic acid, solution **C**.

(Assume that the volume ratio is the same as the mole ratio) (2marks)

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2. You are provided with solid **E**. Carry out the tests below and record your observations and inferences in the spaces provided.

Place all the solid **E** in a boiling tube, add 10cm³ of distilled water and shake.

OBSERVATION	INFERENCE

(1mark)

(1mark)

I. To about 1cm³ of the solution, add 2M sodium hydroxide drop wise until in excess

OBSERVATION	INFERENCE

(1mark)

(1mark)

II. Place 1cm³ of the solution in a test-tube and add 2 to3 drops of 2M sulphuric (VI) acid.

OBSERVATION	INFERENCE

(1mark)

(1mark)

III. To about 1cm³ of the solution, add 4-5 drops of 2M lead (II) nitrate solution and warm.

OBSERVATION	INFERENCE

(1mark)

(1mark)

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

Place all of solid F into a boiling tube. Add 10cm³ of distilled water and shake well. Use 2cm³ portions of the mixture for the following reactions.

OBSERVATION	INFERENCE

(1mk)

(1mk)

- a) Test the PH of first portion using the universal indicator paper.

OBSERVATION	INFERENCE

(1mark)

(1mark)

- b) To the second portion, add three drops of bromine water.

OBSERVATION	INFERENCE

(1mark)

(1mark)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

232/1

Physics (Theory)

Paper 1

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES:

- (a) Write your Name and Index Number in the spaces provided.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) This paper consists two sections A and B.
- (d) Answer all questions in Section A and B in the spaces provided.
- (e) All working **MUST** be clearly shown.
- (f) Mathematical tables and electronic calculators may be used.

FOR EXAMINER'S USE ONLY

Section	Question	Max. Score	Candidate's Score
A	1 – 12	25	
B	13	10	
	14	10	
	15	11	
	16	13	
	17	11	
Total Score		80	

SECTION A (25 MARKS)

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

1. The **figure 1**, shows a micrometer screw gauge that has a zero error of $+0.02$. State the actual reading of the micrometer screw gauge. (1mk)

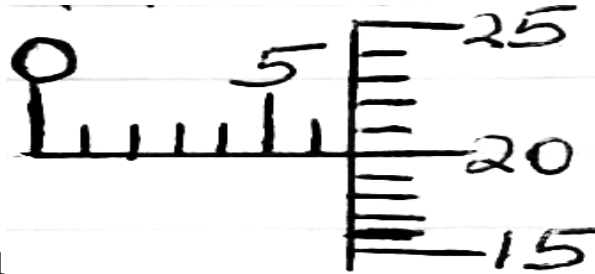


Fig. 1

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2. In the **figure 2**, the U-tube contains two immiscible liquids P and Q. If the density of Q is 900kg/m^3 and that of P is 1200kg/m^3 , calculate the height of liquid Q. (3mks)

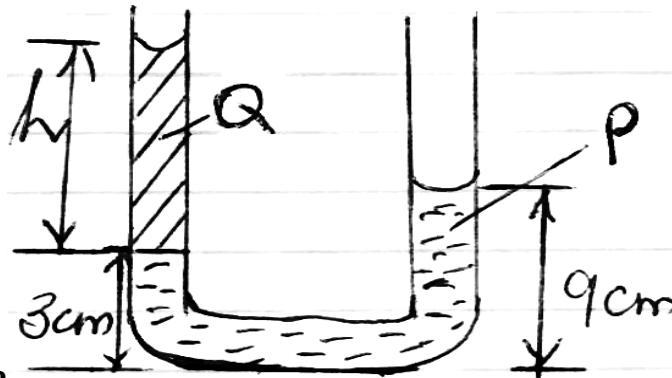


Fig. 2

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3. A force of 10N towards the right hand side and 6N towards the left hand side acts upon a body. What is the resultant force? (2mks)

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4. A trolley of mass 1.5kg moving with a velocity of 1.2ms^{-1} collides inelastically with a second trolley of mass 0.5kg moving in the opposite direction with a velocity of 0.2ms^{-1} .

(a) What is an inelastic collision? (1mk)

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(b) Determine the velocity of the trolleys after collision. (2mks)

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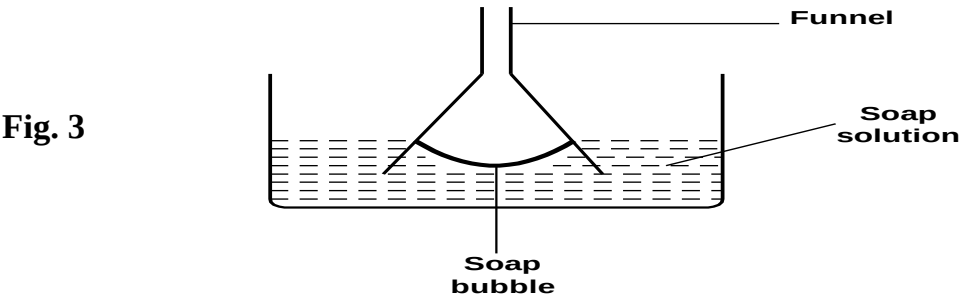
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5. a) What is surface tension? (1mark)

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b) **Figure 3**, shows a funnel dipped into a liquid soap solution.



Explain what happens to the soap bubble when the funnel is removed. (1mark)

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6. **Figure 4**, shows a clinical thermometer which is not graduated.



Fig. 4

a) Name the parts indicate with letters: A and B

(1 mark)

.....

b) Mark the appropriate scale range in degrees Celsius

(1 mark)

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7. **Figure 5**, shows air flowing through a pipe of non-uniform cross-sectional area. Two pipes A and B are dipped into liquids as shown.

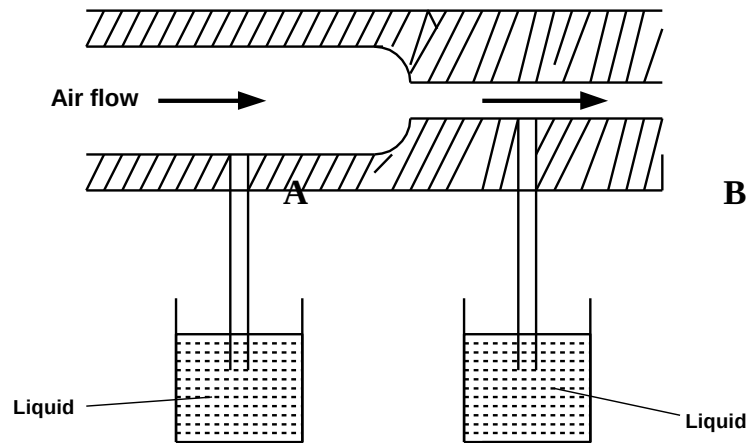


Fig. 5

a) Indicate the levels of the liquids in Pipe A and pipe B.

(1 mark)

b) Explain your answer in 7 (a) above.

(1 mark)

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8. The **figure 6**, shows a flask fitted with a glass tube dipped into a beaker containing water at room temperature. The cork fixing the glass tube is tight.

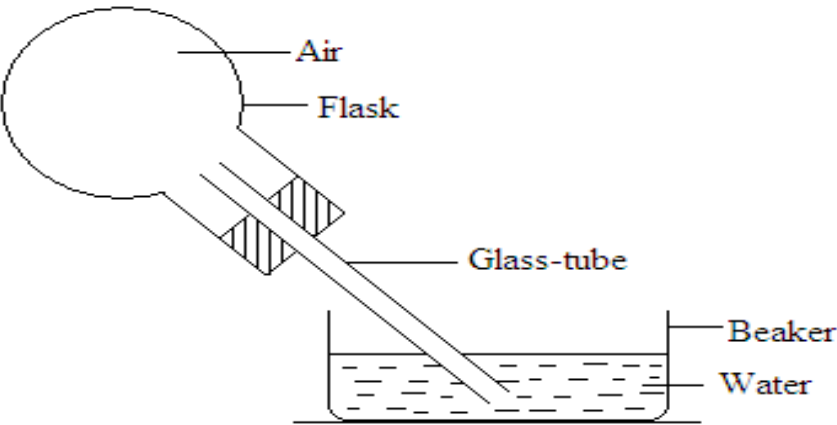


Fig. 6

State with reason what would be observed if cold water is poured on to the flask. **(2marks)**

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9. The **figure 7**, shows three identical springs which obey Hooke’s law.

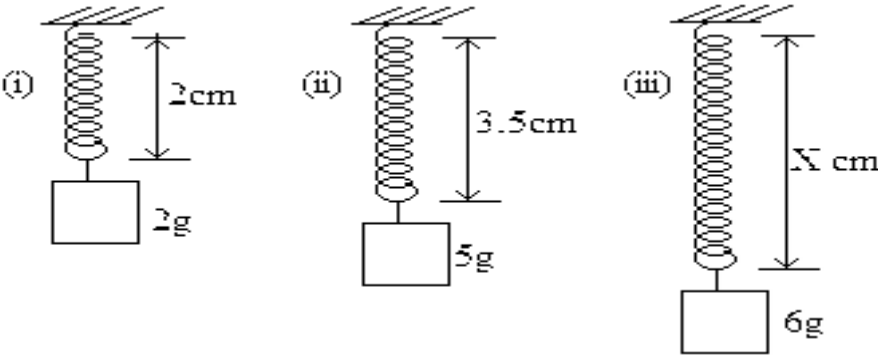


Fig.7

Determine the length Xcm. **(3 marks)**

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10. Using the idea of particles, explain why the pressure inside the tyre is increased when it is pumped up (2marks)

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11. Give one fact which shows that heat from the sun does not reach the earth surface by convection. (2marks)

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12. (a) Give a reason why water is not suitable as a barometric liquid. (1 mark)

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(b) Explain why a lift pump is unable to raise water from a borehole where the level of water is 20m below the ground level. (1 mark)

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SECTION B (55 Marks)

Answer ALL questions in this section in the spaces provided.

13. a) A force of 7.5N stretches a certain spring by 5 cm. Calculate the work done in stretching this spring by 8.0 cm. (3 marks)

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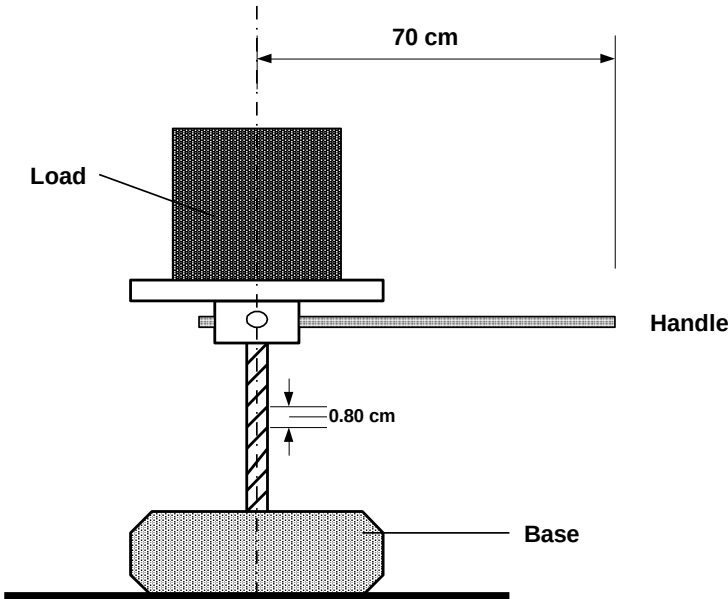
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b) **Figure 8**, shows a cross-section of a handle of a screw jack 70 cm long. The pitch of the screw is 0.8 cm

Fig. 8



Given that the efficiency is 65%, calculate:

i) the velocity ratio of the system (2 marks)

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iii) the mechanical advantage of the screw jack. (2 marks)

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iii.) Sketch a graph of efficiency against Load (1 mark)

iv.) Draw a single moving pulley with a velocity ratio of 2.

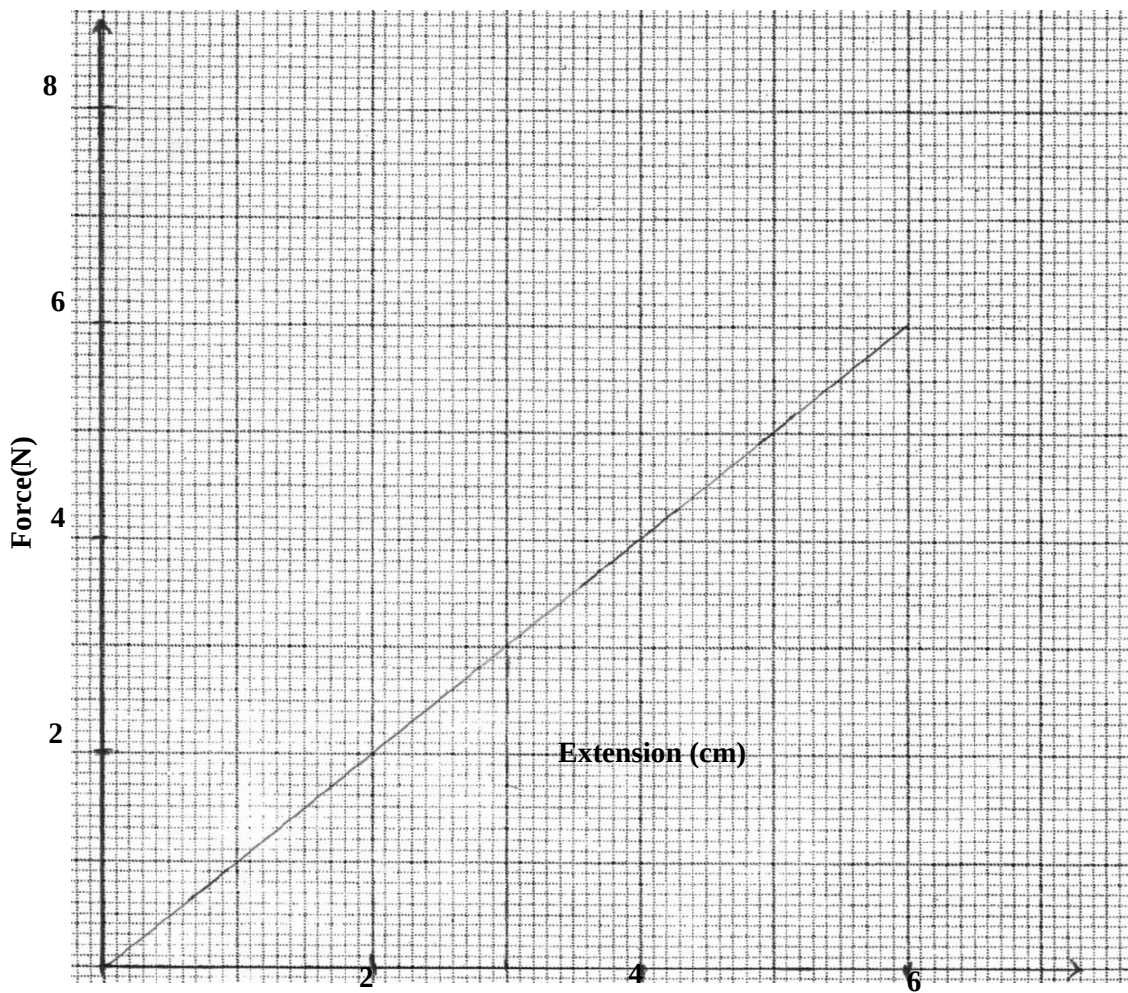
(2 marks)

14. (a) State Hooke's law

(1mark)

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(b) The graph provided is of force (y-axis) against extension.



(g) From the graph determine the work done in stretching spring by 3cm **(3marks)**

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(ii) Use the graph to determine the spring constant. Give your answer in SI units **(3marks)**

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(iii) State three factors that affect the spring constant **(3marks)**

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15. Define latent heat of vaporization. **(1 mark)**

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b) **Figure 9**, shows a set up by a student to determine the specific latent heat of vaporization of a liquid.

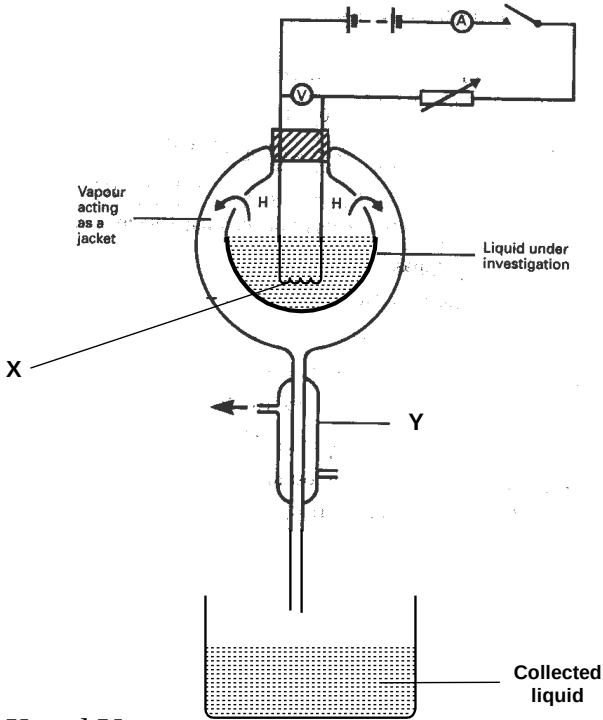


Fig. 9

i) **Identify** the parts labelled X and Y (2 marks)

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ii) **State** the measurements that should be taken. (2 marks)

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iii) **Describe** how the set up can be used to determine the specific latent heat of vaporisation of the liquid. (5 marks)

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iv) What is the purpose of the condenser? (1 mark)

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16. a)i) State Archimedes’s Principle. (1 mark)

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(ii) An object weighs 1.04N in air, 0.64N when fully immersed in water and 0.72N when fully immersed in a liquid. If the density of water is 1000 kg m^{-3} , find the density of the liquid. (4 marks)

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b) i) State the law of floatation (1 mark)

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ii) Give a reason why a steel rod sinks in water while a ship made of steel floats on water.(1 mrk)

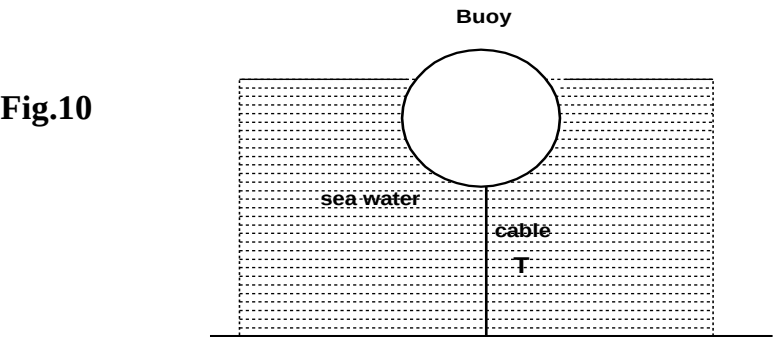
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iii) Draw a clearly labelled diagram of a common hydrometer, which is suitable for Measuring the densities of liquids varying between 1.0 and 1.2 g cm⁻³. (2 marks)

iv) **Figure 10**,shows a buoy, B, of volume 40 litres and mass 10 kg. It is held in position in sea water of density 1.04 g cm⁻³ by a light cable fixed to the bottom so that $\frac{3}{4}$ of the volume of the buoy is below the surface of the sea water. Determine the tension T in the cable.(4 marks)



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17.a) State Pressure Law

(1 mark)

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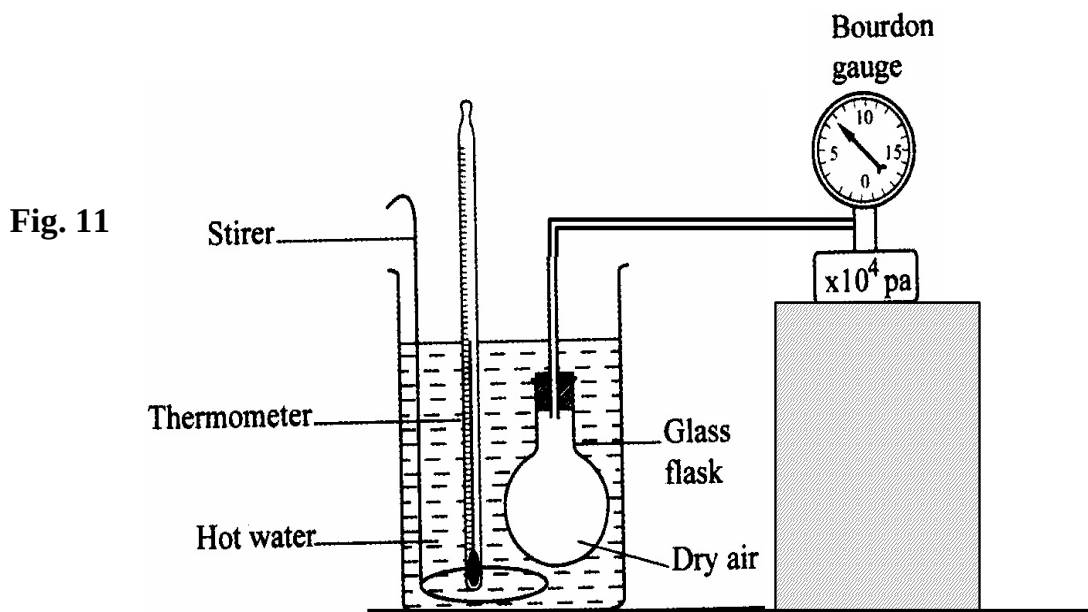
b) State one basic assumption of the kinetic theory of gases.

(1marks)

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c) Figure 11, shows a set up that may be used to verify Pressure law.



i. State the measurements that may be taken in the experiment.

(2 marks)

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ii) Explain how the measurement in (i) above may be used to verify Pressure law.

(4 marks)

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d)) A bicycle tyre is pumped to a pressure of 2.2×10^5 pa at 23°C . After a race the pressure is found to be 2.6×10^5 pa. Assuming the volume of the tyre did not change, what is the temperature of the air in the tyre. **(3 marks)**

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

232/2

Physics (Theory)

Paper 2

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

Instructions to candidates

- This paper consists of two sections A and B.
- Answer **ALL** the questions in sections A and B in the spaces provided.
- **ALL** working **MUST** be clearly shown.
- Mathematical tables and silent electronic calculators may be used.
- This paper consists of 12 printed pages
- Take: Acceleration due to gravity $g = 10 \text{ ms}^{-2}$.
- Density of mercury $\equiv 13600 \text{ kg/m}^3$

FOR EXAMINERS USE ONLY

SECTION	QUESTION	MAX MARKS	SCORE
A	1 – 13	25	
B	14 – 17	55	
TOTAL		80	

SECTION A– 25 MARKS

1. The figure 1 below shows a pinhole camera.



Fig 1

Sketch rays to show the information of a diminished image in the camera. Label both the object and the image. **(2 Marks)**

2. The figure 2 below shows the displacement-time graph for a certain wave.

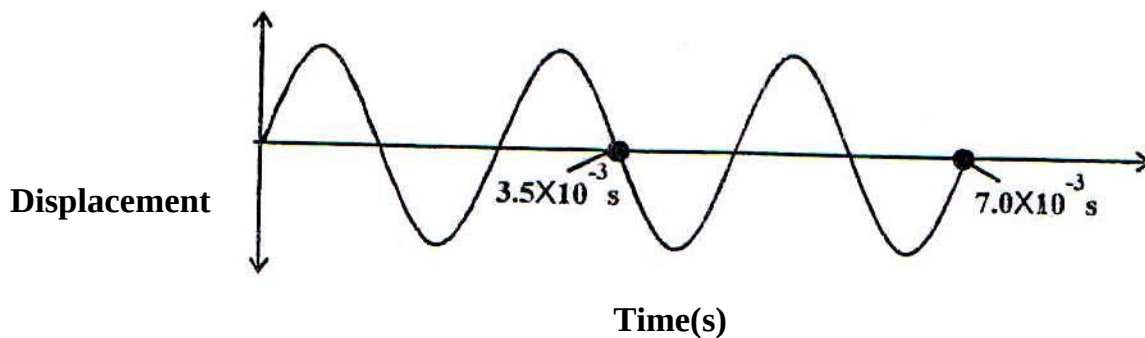


Fig 2

Determine the frequency of the wave. **(3 Marks)**

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3. A metal of resistance R_1 is rated P watts, V volts while another of resistance R_2 is rated $2P$ watts volts $\frac{V}{2}$ volts. Determine $\frac{R_1}{R_2}$ (3 Marks)

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4. A leaf electroscope A is charged and placed on the bench. Another unchanged leaf electroscope B is placed on the same bench and moved close to A until the caps touch. State and explain what is observed on the leaves A and B. (2 Marks)

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5. An unmagnetised steel rod is clamped facing North-South direction and then hammered respectively for sometime. When tested, it is found to be magnetized. Explain this observation. (2 Marks)

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6. Give a reason why it is necessary to leave the caps of cells open when charging an accumulator. (1 Mark)

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7. An electromagnet is made by winding insulated copper wire on an iron core. State the two changes that could be made to increase the strength of the electromagnet. **(2 Marks)**

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8. Determine the speed of light in water given the speed of light in air is $3.0 \times 10^8 \text{m/s}$ and the refractive index of water is 1.33. **(2 Marks)**

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9. In an x-ray tube it is observed that the intensity of x-rays increases when potential differences across the filament is increased. Explain this observation. **(2 Marks)**

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10. The figure 3 below shows P-N junction connected to a battery. It is observed that the current in figure (a) is greater than in figure (b).

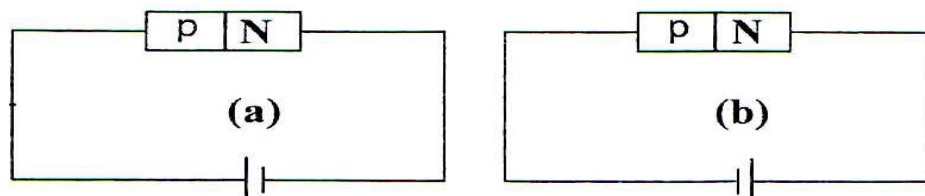


Fig 3

Explain this observation. **(2 Marks)**

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11. Explain why A.C electric power is transmitted over long distance at high voltages. **(1 Mark)**

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12. The wavelength of a radio wave is 1km. Determine its frequency. Given that $V=3.0 \times 10^8$

(2 Marks)

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13. Identify the problem in the circuit below.

(1 Mark)

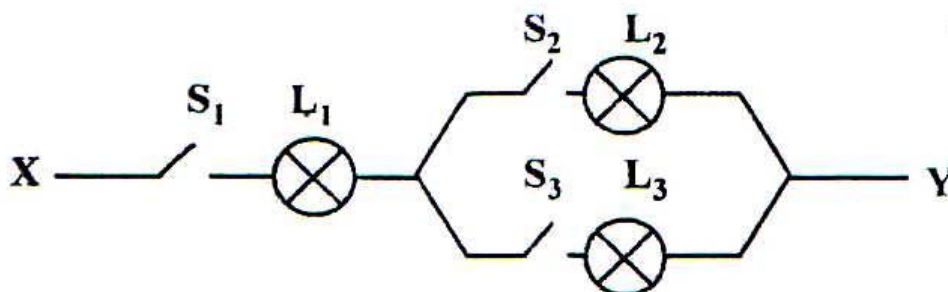


Fig 4

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SECTION B – 55 MARKS

14.(a) Figure below shows a pair of parallel plates of a capacitor connected to a battery. The upper plate is displaced slightly to the left.

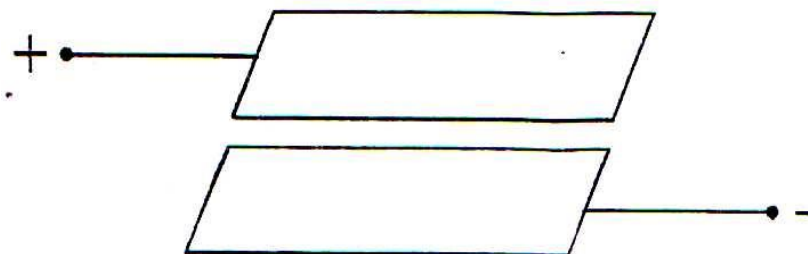


Fig 5

State with reason the effect of this movement on the capacitance.

(2 Marks)

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(b) Figure 6 below is electrical circuit with three capacitors A, B and C of capacitance $4.0\mu\text{F}$, $5.0\mu\text{F}$ and $3.0\mu\text{F}$ respectively connected to 12V battery.

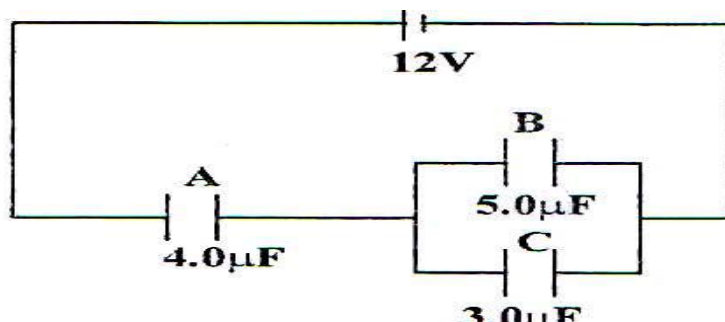


Fig 6

Determine

(i) the combined capacitance of the three capacitors.

(3 Marks)

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(ii) the charge stored in capacitor A.

(2 Marks)

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(iii) the potential difference across the capacitor B.

(2 Marks)

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- 15.(a) Figure below 7 shows the path of radiation from a radioactive source. The field is perpendicular to the paper and directed out of the paper.

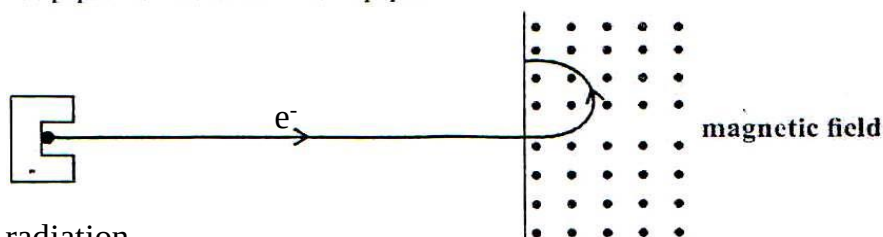


Fig 7

Identify the radiation

(1 Mark)

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- (b) (i) **State** the effect of the radiation on the gas inside the Geiger-Muller tube. (1 Mark)

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- (ii) Explain how the large discharge current is created.

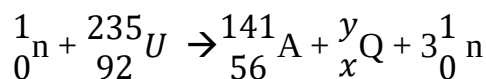
(2 Marks)

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- (c) The following is a nuclear equation for a fission process resulting from the reaction of a neutron with a Uranium nucleus.



- (i) Determine the values of x and y.

(2 Marks)

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- (ii) State the source of the energy released.

(1 Mark)

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(iii) Explain how this reaction is made continuous in a nuclear reactor. (2 Marks)

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16. (a) Figure 8 below shows ultra-violet light striking a polished zinc plate placed on a negatively charged gold-leaf electroscope.

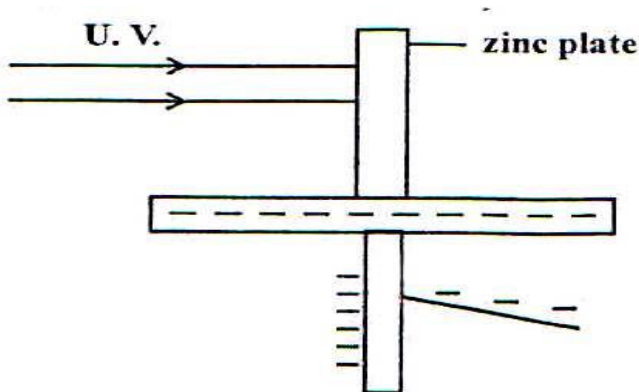


Fig 8

Explain the following observations

(i) The leaf of the electroscope falls (2 Marks)

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(ii) When the same experiment was repeated with a positively charged electroscope the leaf did not fall. (2 Marks)

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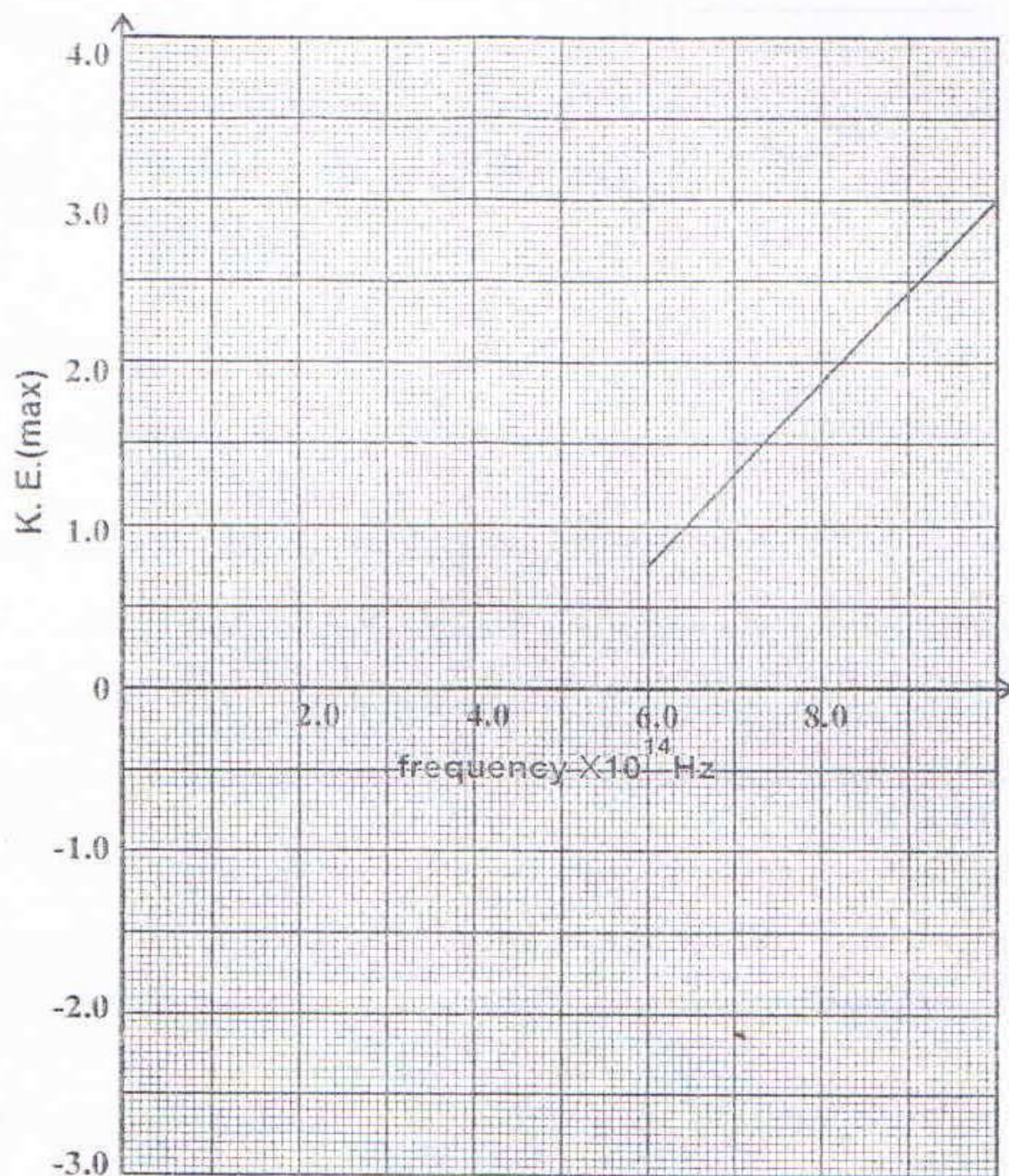
(b)(i) State two factors which determine the speed of photoelectrons emitted by a metal surface. (2 Marks)

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- (ii) In an experiment using a photocell, U.V light of varying frequency but constant intensity was made to strike a metal surface. The maximum kinetic energy ($K.E_{\max}$) of photoelectrons for each frequency, f , measured. The graph shows how $K.E_{\max}$ varies with f .



Given that $K.E_{\max} = hf - Q$, determine the value of the constants h and Q from the graph.

(6 Marks)

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(c) Light of frequency $5.5 \times 10^{14}\text{HZ}$ is made to strike a surface whose work function is 2.5ev . Show that photoelectric effect will not take place (Use the value of h from (b) (ii) above)

(4 Marks)

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17.(a) Figure 9 below shows two circuits close to each other.

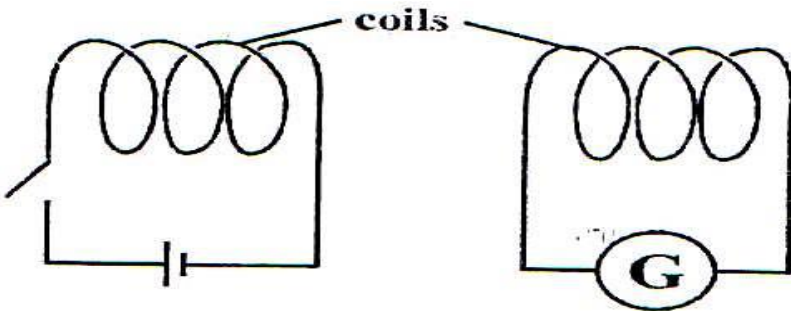


Fig 9

When the switch is closed, the galvanometer shows a reading and then returns to zero. When the switch is then opened, the galvanometer shows a reading in the opposite direction and then returns to zero. Explain these observations. **(3 Marks)**

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(b) Explain how energy losses in a transformer are reduced by having:

(i) A soft-iron core. **(2 Marks)**

.....

.....

.....

(ii) A laminated core **(2 Marks)**

.....

.....

.....

(c) An ideal transformer has 2000 turns in the primary circuit and 200 turns in the secondary circuit. When primary circuit is connected to a 400V a.c. source the power delivered to a resistor in the secondary circuit is found to be 800W.

Determine the current in

(i) The secondary **circuit** **(3 Marks)**

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(ii) The primary circuit

(3 Marks)

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Figure 10 below shows a circuit in which a battery, a switch, a bulb, a resistor P, a variable resistor Q, a voltmeter V and ammeter A_1 and A_2 of negligible resistance are connected. P has resistance of 10Ω . When the switch is closed voltmeter reads $1.5V$.

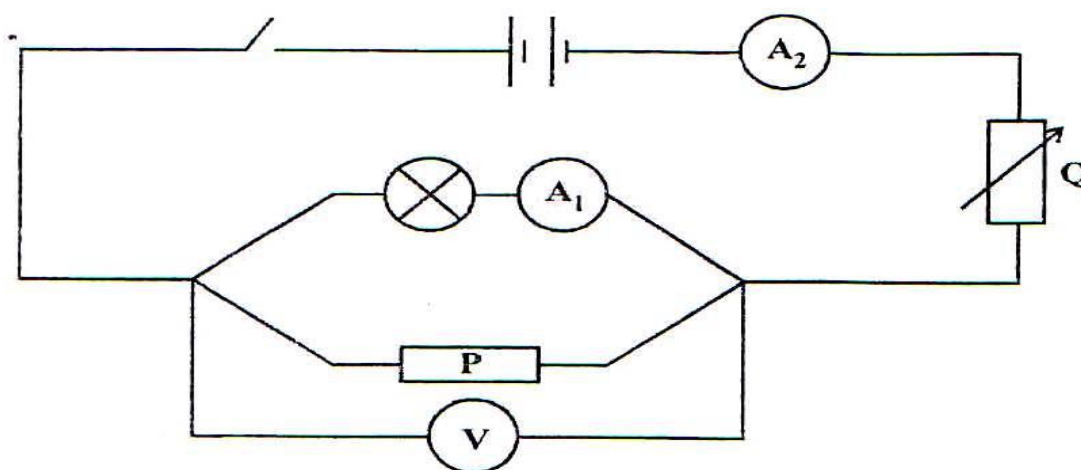


Fig10

(a) Determine

(i) The current passing through P, given that the current through it is 0.1 A .

(3 Marks)

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.....

(ii) the resistance of the bulb.

(2 Marks)

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.....

(b) The variable resistor Q is now adjusted so that a larger current flows through A_2

(i) State how this will affect the brightness of the bulb.

(1 Mark)

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.....

(ii) Explain your answer in b (i)

(2 Marks)

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

232/3

Physics (Practical)

Paper 3

Time: 2½ Hours

SCHOOL..... SIGN.....

Kenya Certificate of Secondary Education.

INSTRUCTION TO SCHOOLS.

This document must not be seen by the candidates whatsoever.

QUESTION 1

Each candidate will require the following;

- 2 new size D dry cells
- A switch
- A carbon resistor labeled R ($1K\Omega$)
- A capacitor labeled C ($2200\mu F$). Label the terminal of the capacitor as +ve and -ve
- A voltmeter (0-5 v)
- 8 connecting wire at least 4 with crocodile clips
- Cell holders
- Stop watch
- A meter rule or a half meter rule
- A light thread of about 60cm in length
- A complete stand
- A pendulum bob or a 50 g mass

QUESTION TWO

- A bi-convex lens of focal length 15cm.
- A metre rule.
- A candle
- A cross wire on a screen
- A white screen
- A lens holder

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

232/3

Physics (Practical)

Paper 3

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education

INSTRUCTIONS TO CANDIDATES:-

- Write your **name**, **indexnumber** and **school** in the spaces provided above.
- Answer **all** the questions in the spaces provided in the question paper
- You are supposed to spend the first **15 minutes** of 2 ½ hours reading the whole paper carefully before commencing your work.
- Marks are given for a clear record of the observations actually made, their suitability, accuracy and the use of them
- Record your observations as soon as you make them.
- Mathematical tables, slide rules and silent non-programmable electronic calculators may be used.
- Take $g = 10\text{ms}^{-2}$

FOR EXAMINERS' USE ONLY:

QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
1	20	
2	20	
TOTAL SCORE	40	

1. PART A

You are provided with the following:

- a voltmeter ($0 - 5V$)
- a carbon resistor labelled R
- Two new size D dry cells
- cells holder
- a capacitor labelled C ($2200\mu F$)
- a stopwatch
- eight connecting wires at least four of which have crocodile clips
- a switch

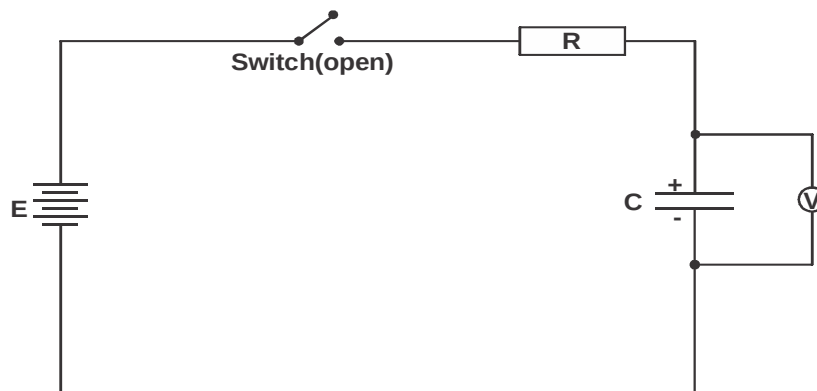
Proceed as follows :

- i) a) Draw a circuit diagram having a switch, voltmeter, two dry cells and connecting wires that can be used to determine the Emf of the cells provided. **(1mk)**

- b) Use the above circuit to determine the Emf of the cells

Emf =V(1mk)

- ii) Connect the circuit as shown in figure 1 below.



- iii) Close the switch and note the maximum voltage attained on the voltmeter. Record it as $V_{\max}$

$V_{\max} = \dots\dots\dots V$ **(1 mark)**

iv) Open the switch and simultaneously start your stopwatch and note the time taken for the voltmeter reading to decrease from $V_{\max}$ to 0.2V. record this value in table 1 below. Short the terminals of the capacitor C to attain a reading of zero volts on the voltmeter.

v) Repeat procedure iii and iv for the other values of the voltage indicated in table 1

Table 1

Voltage, V (volts)	0.2	0.5	0.8	1.0	1.5	1.8
Time (t)(s) taken for voltage to decrease from $V_{\max}$ to V						

vi) determine the resistance R of the resistor given that $t = 70/11 CR$. Where t is the time at which $V=0.5V$ and C is the capacitance of the capacitor.

3mks

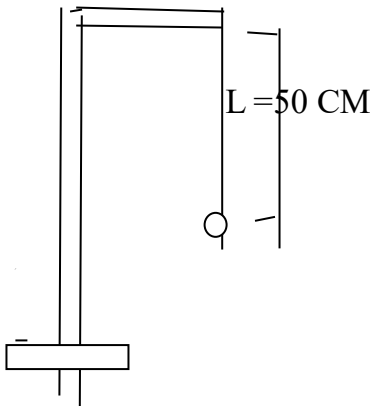
PART B

You are provided with:

- A complete stand
- A stop watch
- A light string
- A pendulum bob or a 50g mass
- A metre rule or a half metre rule

Proceed as follows:

i) Set up the apparatus as shown in the figure below



ii) Displace the bob slightly at a small angle from the vertical line and record the time taken 20 oscillations in the table below. Repeat the for two more trials

Table 2

1 ½ mks

Trial 0	Trial 1	Trial 2	Trial 3
Time for 20 oscillations			

iii) Find the average time for 20 oscillations

1 ½ mks

iv) Calculate the average periodic time T_{av} 2mks

v) Given that $T_{av} = 2\pi\sqrt{l/g}$ find the value of g

3mks

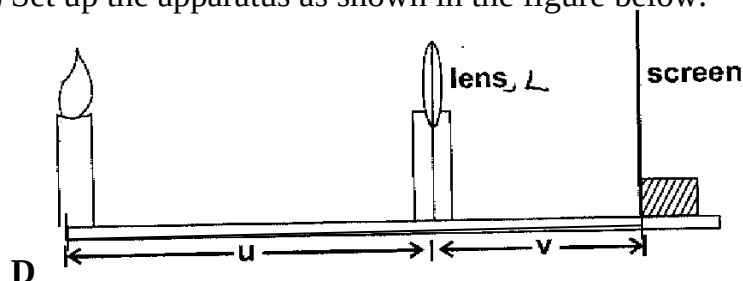
Question 2

You are provided with the following:-

- A biconvex lens.
- A lens holder.
- A screen.
- A meter rule.
- A candle
- A cross wire

Proceed as follows:

(a) Set up the apparatus as shown in the figure below.



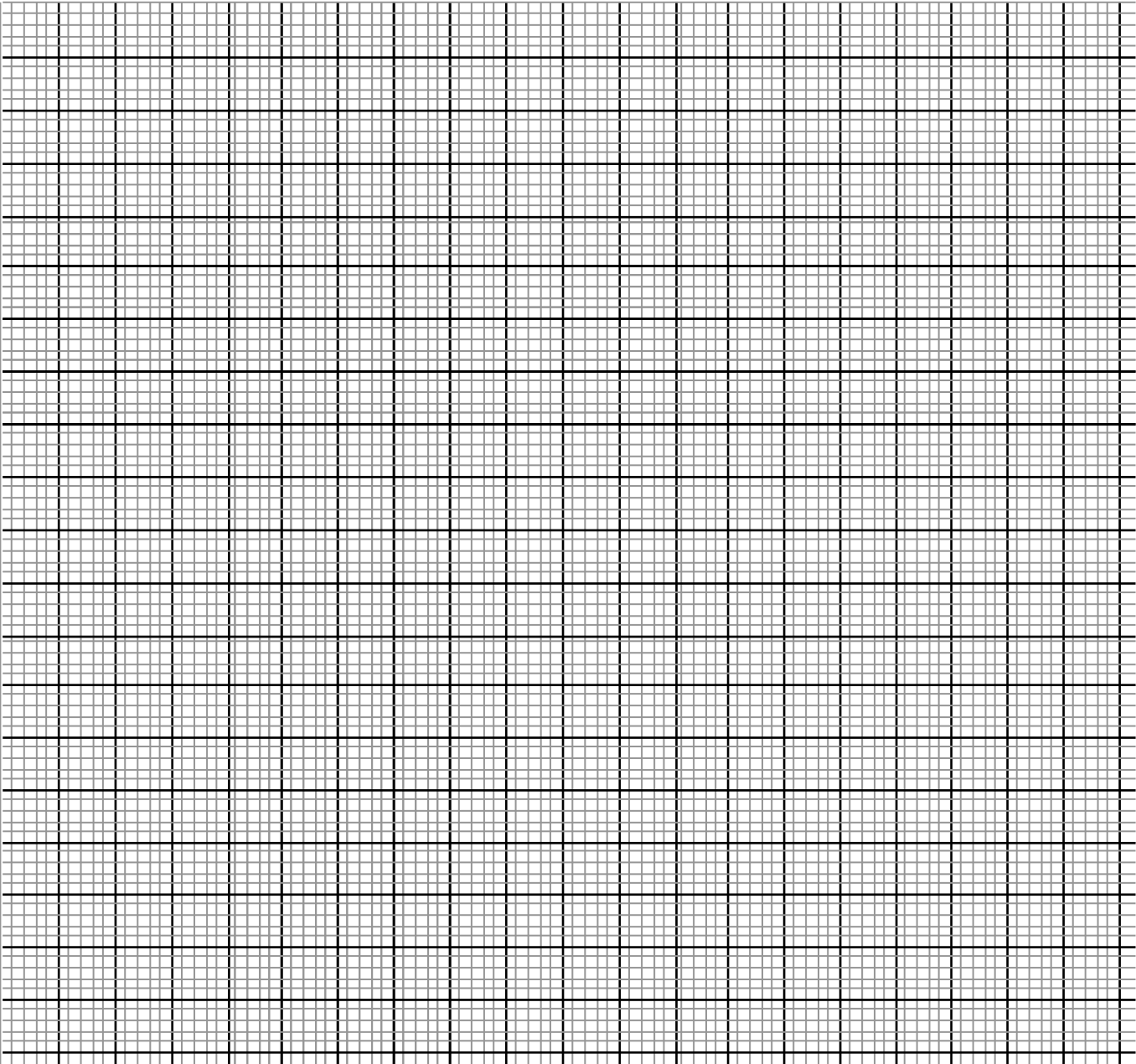
NB: THE CROSS WIRE PROVIDED MUST BE PLACED JUST INFRONT OF THE CANDLE TO ACT AS THE OBJECT

- (b) Place a lit candle and a cross wire at a distance $U = 20\text{cm}$ from the lens
- (c) Adjust the position of the screen until a sharp image of the cross wire is focused on the screen.
Record d in the table 2.
- (d) Repeat part (b) and (c) for other values shown in table 2 and complete the table. (8mks)

Table 2

U(cm)	20	25	30	35	40	45
D (cm)						
V=D-U(cm)						
1/m =u/v						

(e) Plot a graph of 1/m against U. **(5mks)**



f) determine the slope S of the graph

(3mks)

g) given that $1/f = 1/v + 1/u$, use the graph to determine the focal length of the lens

4mks

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

231/1

Biology (Theory)

Paper 1

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

1. Write your name, school and index number in the spaces provided above.
2. Write the date of the examination in the space provided above
3. Answer all questions in the spaces provided after each question only

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1 - 26	80	

Answer all questions in the spaces provided

1. Give the role of the following parts of microscope.

(3marks)

i) Mirror

.....
.....

ii) Diaphragm

.....
.....

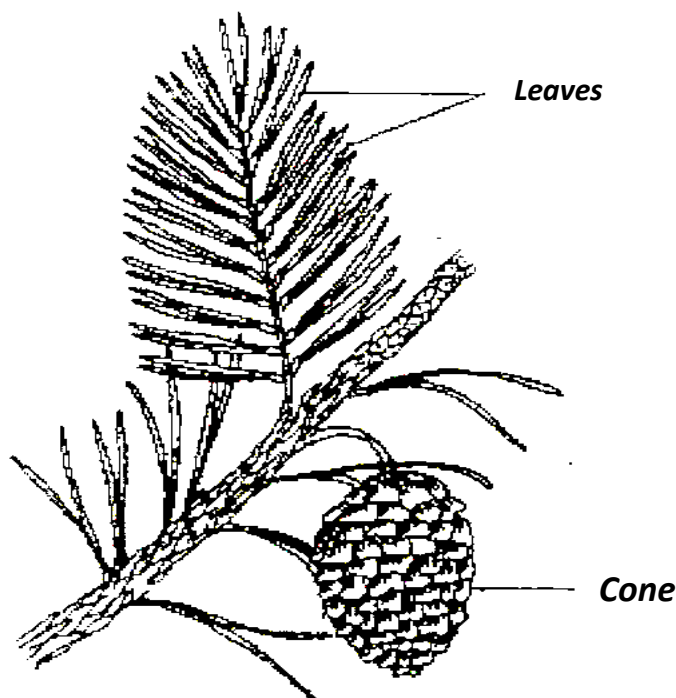
iii) Coarse adjustment knob

.....
.....

2. (a) What **three** characteristics are used to divide the phylum arthropoda into classes? (3mks)

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

(b) The diagram below represents a certain plant species.



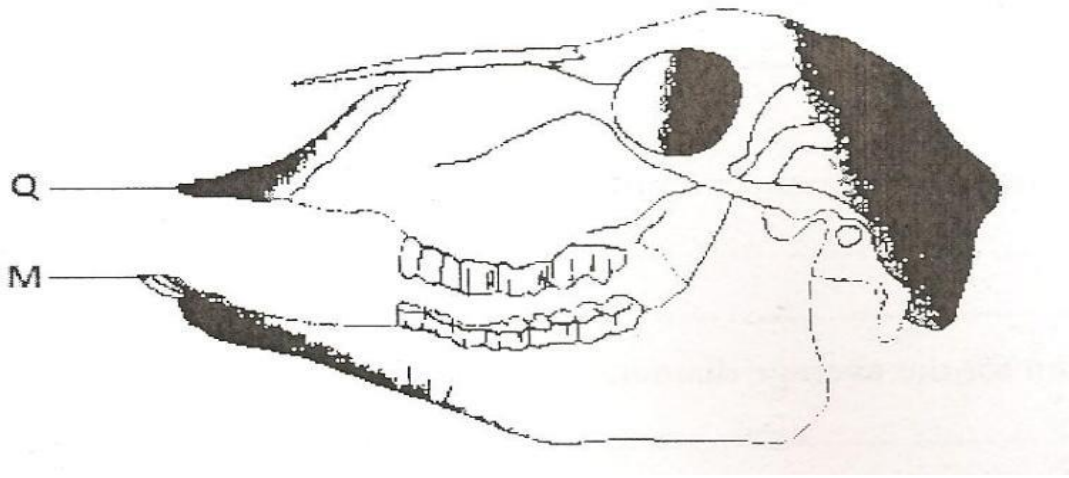
i) State the class to which the plant belongs. (1 mark)

ii) State two differences between members of Gymnospermaphyta and Angiospermaphyta (2 marks)

Gymnospermaphyta	Angiospermaphyta

iii) State one observable xerophytic characteristic seen in the diagram above. (1mark)

3. The following specimen was collected by form two students during a nature walk.



(a) Name the tooth labeled M. (1 mark)

(b) Name the part labeled Q and state its role. (2 marks)

Name:

Role:

4. A solution of sugarcane was boiled with hydrochloric acid; sodium carbonate was added; cooled and benedict's solution was added then boiled. An orange precipitate was formed.

(a) Why was the solution boiled with hydrochloric acid? (1mark)

.....
.....

(b) Why was sodium carbonate added? (1mark)

.....
.....

(c) Name the type of reaction that takes place when simple sugars combine to form complex sugar.

(1mark)

.....

5. (a) Define the following terms as used in ecology. (2 marks)

i) Biosphere

.....
.....

ii) Biomass

.....
.....

(b) **Form** three students wanted to estimate the population of grasshoppers in 8km² grass field near a school compound. They captured 72 grasshoppers and marked them before returning them back to the field. After three days they made another catch of grasshoppers. They collected 147 grasshoppers of which only 29 had marks.

i) State why the second capture was done after three days. (1 mark)

.....
.....

iii) From the data, calculate the population size of grasshoppers in the grass field. (2 marks)

6. a) State the most suitable biological tool for collecting the following organisms:-

i) A moth from a farm. (1 mark)

.....

ii) Ants from a tree trunk. (1 mark)

.....

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



i. Identify the organ illustrated above. (1mark)

.....

.....

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

.....

.....

.....

.....

.....

8. a) State two characteristics that researchers select in breeding programs in plants(2marks)

.....
.....

b) In a maize the gene for purple colour is dominant to the gene for white colour. A pure breeding maize plant with purple grains was crossed with heterozygous plant. Using letter G to represent the gene for purple colour, work out the genotypic ratio of the offspring. (2 marks)

9. a) Name the organelle where Kreb's/ citric acid cycle take place in a cell. (1mark)

.....

b) In which organelle is each of the following found: (2mark)

i) Lytic enzymes

ii) Chromosomes

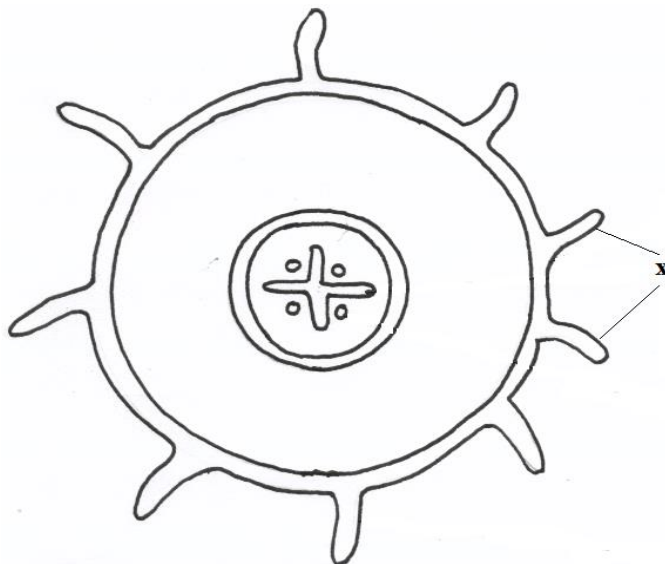
10. State the importance of osmo- regulation in organisms (2 marks)

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

11. Explain why unicellular organisms such as paramecium lack complex organs for gaseous exchange. (2marks)

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

12. The diagram below represents a transverse section of a plant part. Study it and answer the questions that follow.



a) Name the class in which the plant belongs.

(1mark)

.....

b) Give a reason for answer (a) above.

(1mark)

.....

.....

c) State **one** adaptation for the structures labeled X to their functions.

(1mark)

.....

.....

13. State the function of the following structures in the human ear.

(a) Semi – circular canals.

(1mark)

.....

.....

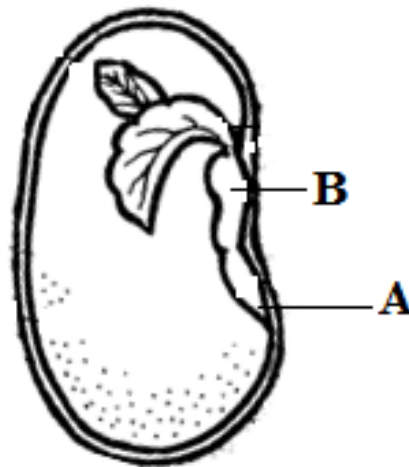
(b) Eustachian tube.

(1mark)

.....

.....

14. The diagram below shows the internal structure of a broad bean seed. Study it and answer the questions that follow.



(a) Name the part labeled B. **(1 mark)**

.....

(b) Why is it important that the part labeled A develops first during germination? **(2 mark)**

.....

.....

.....

15. The diagram below represents a mammalian bone.



(a) Identify the bone **(1mark)**

.....

.....

(b) i) Name the bones that articulate with this bone at points K and L (2 marks)

K

.....

L

.....

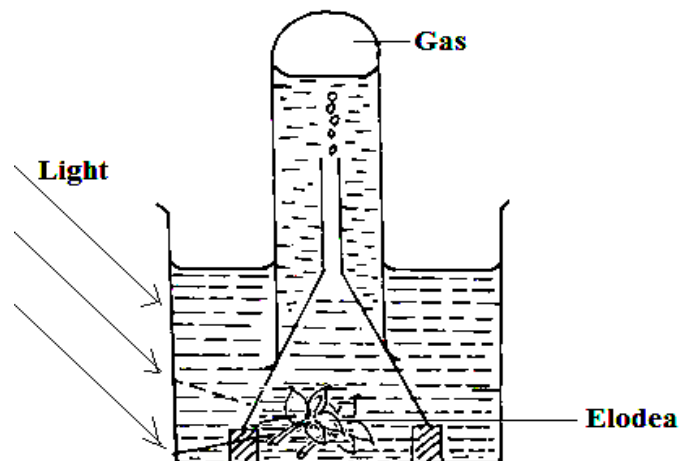
16. The equation below represents a metabolic process that occurs in the mammalian liver.

Amino Acids $\longrightarrow$ Organic compound + Urea

Name the process (1 mark)

.....

17. The diagram below represents a set up that was used to investigate a certain process in a plant.



(a) State the process that was being investigated. (1 mark)

.....

(b) Other than the factors shown, state two factors that would affect the process named in (a) above. (2 marks)

.....

.....

.....

18. Give an example of the sex linked trait in humans located on

Y – Chromosomes

(1mark)

.....

X – Chromosomes

(1 mark)

.....

19. Outline two roles of active transport in human beings.

(2 marks)

.....

20. a). Name the causative organism for amoebic dysentery.

(1 mark)

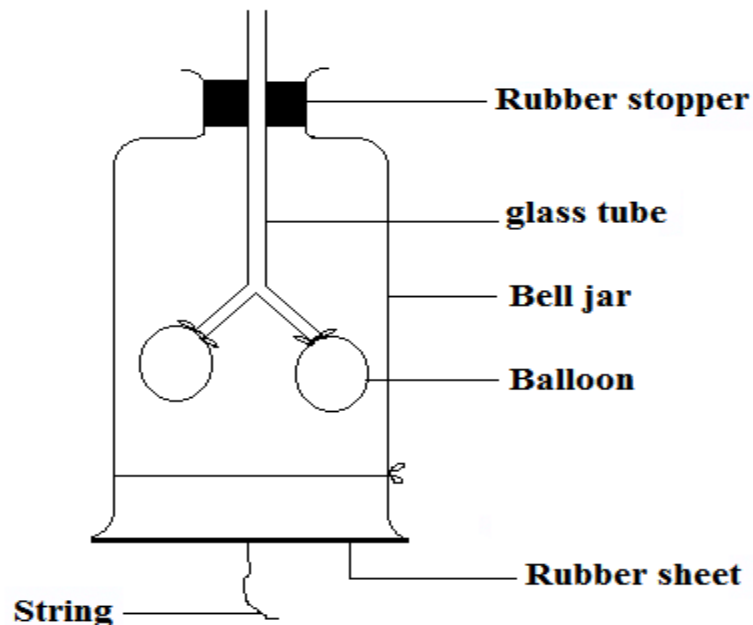
.....

b) State three preventive measures of schistosomiasis in human beings

(3 marks)

.....

21. Tom, a form two student set up the apparatus shown below to demonstrate the breathing mechanism in a mammal.



(a) What structure in a mammal is represented by each of the following? **(2marks)**

i)Glass tube.....

ii) Rubber sheet

(b) Explain what will happen to the balloons if the rubber is pulled down wards. **(2 marks)**

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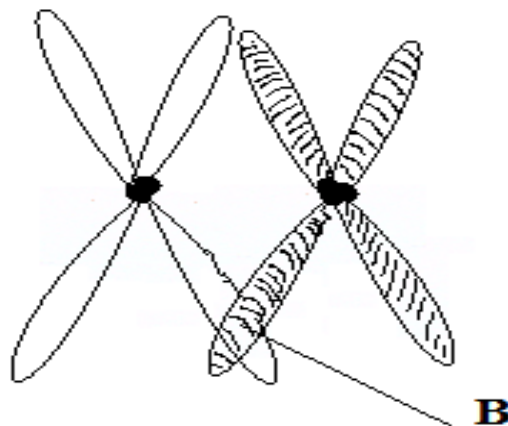
22.a) What is adaptive radiation? **(2marks)**

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.....
.....

b) Explain why crossbreeding is important in animal breeding. **(2 marks)**

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.....

23. The diagram below shows a phenomenon which occurs during cell division.



a) Identify the stage of cell division in which this phenomenon occurs. **(1 mark)**

.....

b) State the importance of the phenomenon taking place in the part labeled B. (2 marks)

.....

.....

.....

24. a) State one advantage of double circulation over single circulation. (1mark)

.....

.....

b) State two adaptations of blood capillaries to their functions. (2marks)

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.....

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25. a) Name a growth hormone that has inhibitory effects in plants growth. (1mark)

.....

b) State two characteristics of meristematic cells. (2marks)

.....

.....

26. Write down two functions of exoskeleton. (2 marks)

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

231/2

Biology (Theory)

Paper 2

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces provided above.
3. This paper consists of **Two** sections **A** and **B**.
4. Answer **ALL** the questions in section **A** in the spaces provided.
5. In section **B** answer question 6 (compulsory) and either 7 or 8 in the spaces provided.

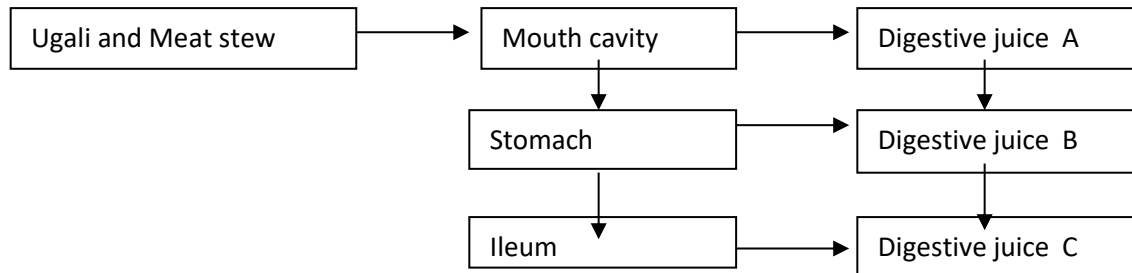
FOR EXAMINERS USE ONLY.

SECTION	QUESTIONS	MAXIMUM	SCORE
A	1-5	40	
B	6	20	
	7	20	
	8	20	
	TOTAL	80	

SECTION A (40 MARKS)

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

1. The flow diagram below represents passage of a meal through the human digestive system. Study the diagram and answer the questions that follow.



- (a) Name the physical process that will occur in mouth cavity (1mk)

.....

- (b) Name the digestive juices **B** and **C** (2mks)

B.....

C.....

- (c) Explain **two** ways in which the digestive system is protected from corrosive effects of digestive juices. (2mks)

.....

.....

.....

- (d) Name the hormone that stimulate secretion of juice **B**. (1mk)

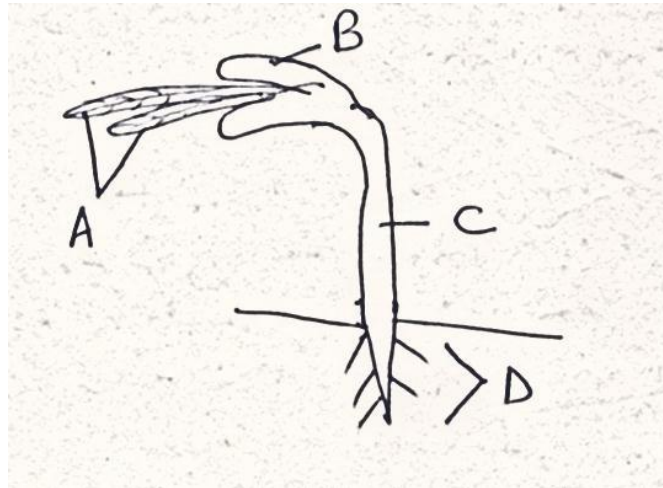
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- (e) Identify **two** contents of digestive juice **A** (2mks)

.....

.....

2 Examine the diagram below and answer the questions that follows



Name the parts labeled **A-D** (4mks)

A.....

B.....

C.....

D.....

b) State the type of germination exhibited by the seedling above (1mk)

.....

c) State and explain three environmental conditions necessary for germination. (3 marks)

.....

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.....

3. A cross between a red flowered plants and white flowered plants produced plants with pink flowers. Using letter R to represent the gene for red color and W for white.

a) What were the parental genotypes? (2mks)

.....

.....

b) Work out the cross between f1 generations (4mks)

c) State the phenotypic and genotypic ratios of the f2 generations (2mks)

.....

.....

.....

4. (a) What is meant by:

i) Autecology (1mk)

.....

.....

ii) Synecology (1mk)

.....

.....

(b) Using the table below, answer the questions that follow

	Number of stomata	
Leaf	Upper epidermis	Lower epidermis
A	300	0
B	150	200
C	02	13

c) Suggest the possible habitat of the plants from the leaves were obtained (3mks)

A
.....

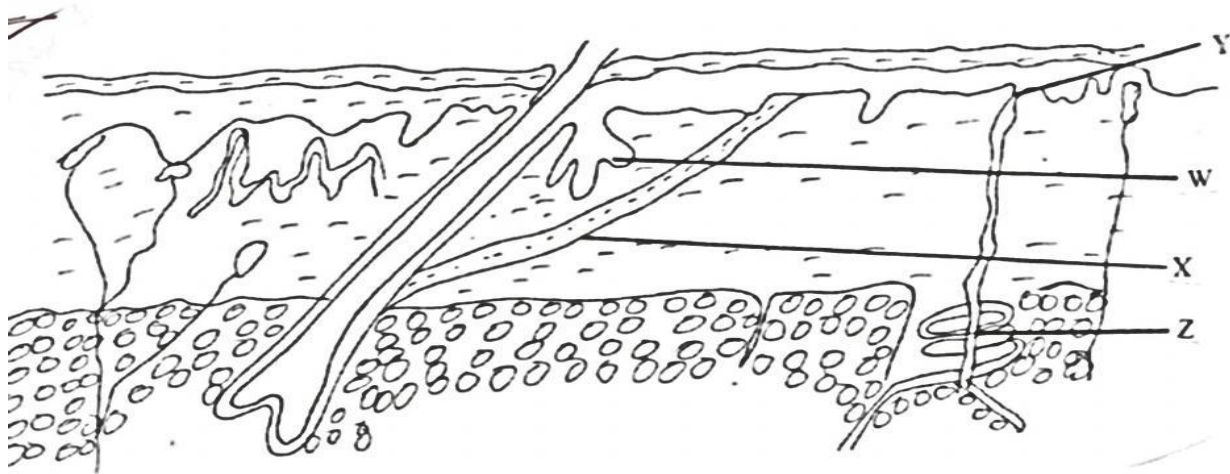
B
.....

C
.....

d) State the modifications in the stomata of leaf C (3mks)

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

5. The diagram below shows a section through the mammalian skin



a. Name the parts labeled Y and X (2mks)

X.....

Y.....

b. State the function of the parts labeled W and Z (2mks)

W.....
.....

Z.....
.....

c. Explain the changes that occur on the skin when it is cold (4mks)

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SECTION B: (40MKS)

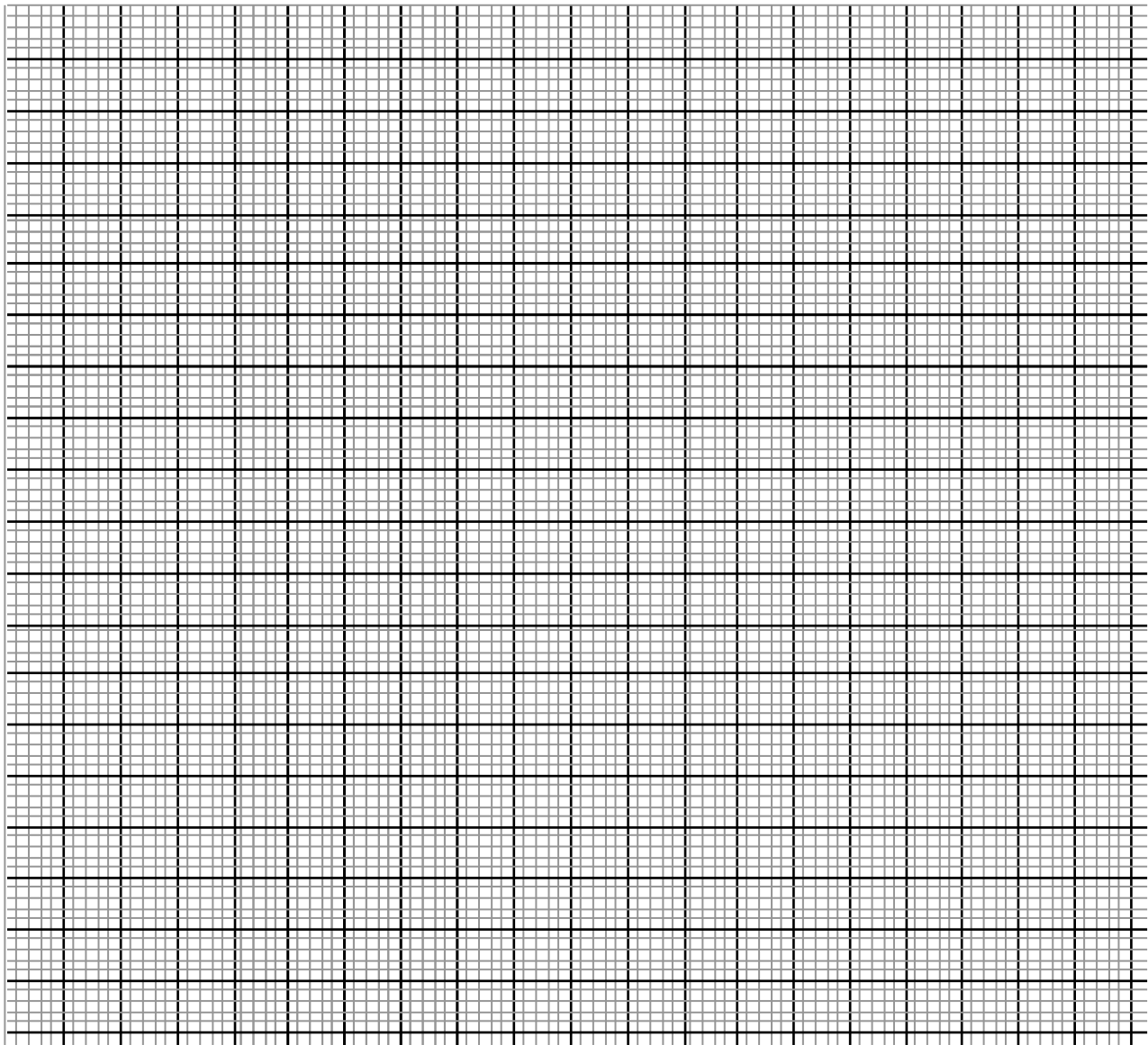
QUESTION 6 is COMPULSARY: Answer either question 7 or 8.

6. In an experiment, three healthy rabbits were fed with equal amounts of carbohydrates. After 1 hour their blood sugar glucose concentration was measured at 30 minutes intervals for 3 hour. The results are as shown in the table below.

Glucose conce Mg/ ml Rabb it	Initial time(minut es)	30 Minut es	60Minut es	90 Minut es	120 Minut es	150 Minut es	180 Minut es
P	1.6	1.55	1.43	1.36	1.3	1.19	1.11
Q	1.49	1.39	1.34	1.32	1.27	1.2	1.09
R	1.59	1.39	1.33	1.27	1.18	1.1	0.99
Mean	1.56	1.44		1.32	1.25	1.16	-

a.(i) Calculate the **mean** glucose concentration 1mg/ml of blood at 60 and 180 minutes.
(2mks)

(ii) On the grid provided plot a graph of mean glucose concentration against time. (6mk)



(iii) What was the mean concentration in the blood after 75minutes? (1mks)

.....
.....

(iv)Why was it necessary to use 3 rabbits in the experiment? (1mks)

.....
.....

(v) Account for differences in mean glucose concentration between initial time and 180 minutes. **(3mks)**

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.....

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.....

(b) Name three products of digestion other than **glucose** **(3mks)**

.....

.....

(c) What is the fate of excess glucose in:

(i) Plants? **(2mks)**

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.....

.....

.....

(ii) Animals ? **(2mks)**

.....

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.....

7. Describe how the male reproductive system is adapted to its functions. **(20mks)**

8(a) How are structures of the human eye adapted to their functions **(14 marks)**

(b) State three defects of the eye and how each can be corrected **(6 marks)**

This image shows a full page of white paper with horizontal dotted lines, typical of primary-ruled notebook paper. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings present.

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

231/3

Biology (Practical)

Paper 3

Time: 1½ Hours

SCHOOL..... SIGN.....

Kenya Certificate of Secondary Education.

CONFIDENTIAL.

Each candidate should be provided with the following:

- 10ml of Solution Q- A mixture of glucose, egg albumin and ammonia solution
(20gms of glucose + 10gms of egg albumin in a liter of 1M ammonia solution)
- Distilled water in a 100ml beaker.
- Source of heat
- 2 test tubes.
- 10% sodium hydroxide solution.
- A glass rod.
- Visking tubing-8cm long.
- 1% copper sulphate solution.
- 2 threads/strings-about 5cm long.
- Benedict's solution.
- 2 labels
- A syringe enough to measure 10mls.
- 3 droppers
- NB**-All photographs should be coloured

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

231/3

Biology (Practical)

Paper 3

Time: 1½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

Answer all questions.

- You are supposed to spend the first 15 minutes of the 1½ hours allowed for this paper reading the whole paper carefully before commencing your work.
- Answers must be written in the spaces provided on the question paper
- Answers should be written in English.
- Candidates may be penalized for recording irrelevant information and incorrect spelling especially of technical terms.

FOR EXAMINER'S USE ONLY

Question	Maximum Score	Candidate's Score
1	14	
2	16	
3	10	
Total score	40	

1. You are provided with:

- Solution Q
- Distilled water in 100 ml beaker
- Visking tubing and two threads
- Glass rod
- 2 test tubes and two labels
- Benedict's solution 10% sodium hydroxide solution and 1% copper sulphate solution.

PROCEDURE:

- Tie the visking tubing tightly at one end using the thread and put about 5ml of solution Q. Tie tightly the other end ensuring that there is no leakage.
- Place the visking tubing in the distilled water in 100ml beaker and support it by tying the thread on a glass rod over the beaker.
- Allow the set up to stand for 30mins. Observe any changes in the visking tubing.
- Remove the visking tubing from the distilled water.
- Using a syringe draw about 5ml of the contents in the beaker labeled distilled water. Put it in the test tube and label it G. Repeat the same procedure to obtain 5ml of solution in the visking tubing, put in another test tube and label it H.

a) Using the reagents provided, carry out food tests to determine the components in substance **G** and **H** and fill the table below.

Substance	Food Test	Procedure	Observation	Conclusion
G				

H				

8marks

b) Substance Q is a urine sample obtained from a patient in a hospital laboratory. Name two conditions that the patient was suffering from. **(2marks)**

.....

.....

.....

c) (i) What physiological activities that took place in the experiment you undertook above. **(2mark)**

.....

.....

.....

Account for your answer in C (i) above. **(2marks)**

.....

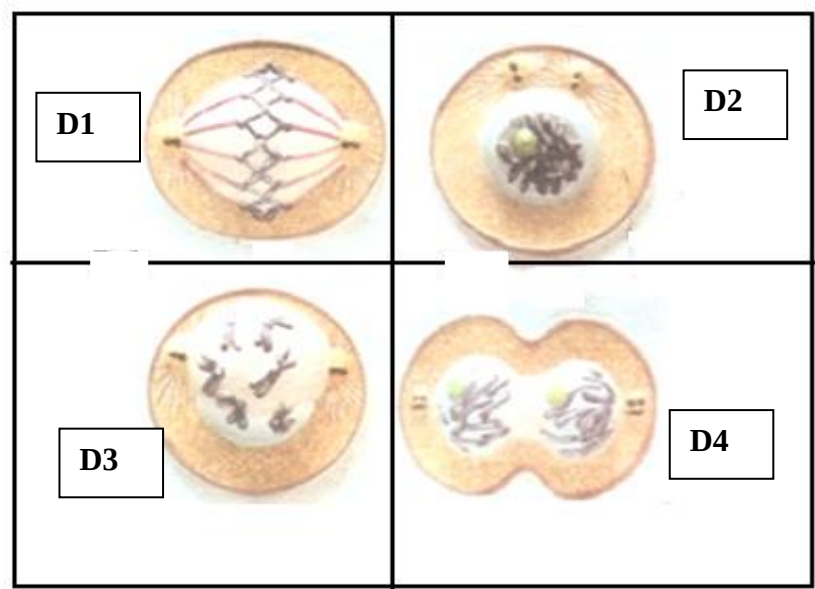
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2. Study the photomicrographs below and use them to answer questions that follow.



- a) Identify the type of cell division above.

(1mark)

.....
- b) Give a reason for your answer (i) above.

(1mark)

.....

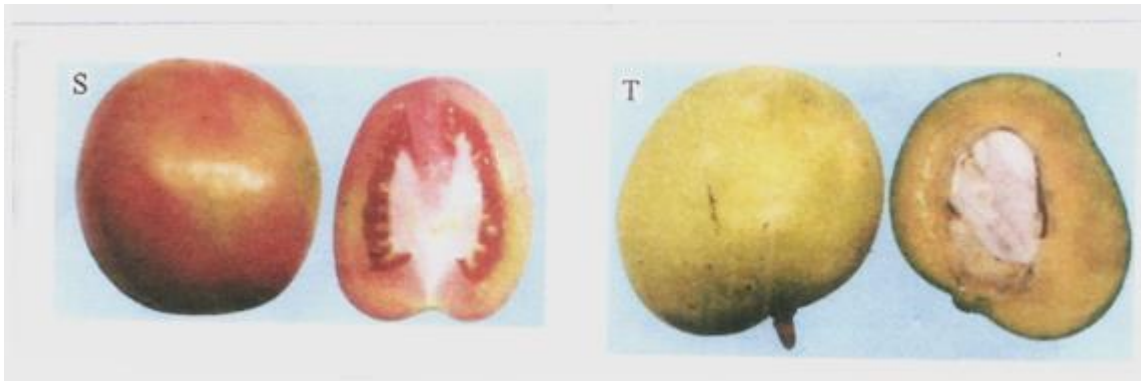
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c) With a reason identify each stage.

(4marks)

Diagram	Stage	Reason
D1		
D2		
D3		
D4		

(d) The photographs below show two fruits and their half-sections.



(i) Through which plane has the sections been cut? (1mark)

.....

(ii) State two differences between specimens S and T. (2marks)

.....

.....

.....

(iii) With reasons, in each case state the type of fruit and method of dispersals for specimen S and T. (2marks)

Specimen S

Type of fruit:

Reason:.....

Method of dispersal:.....

Reason:.....

Specimen T

(2mks)

Type of fruit:.....

Reason:.....

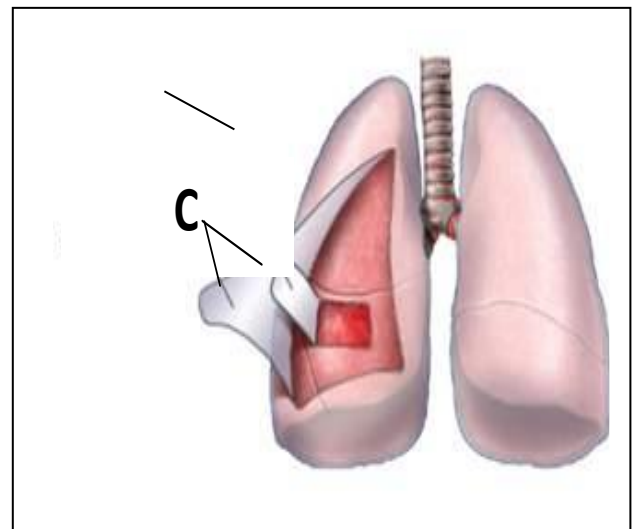
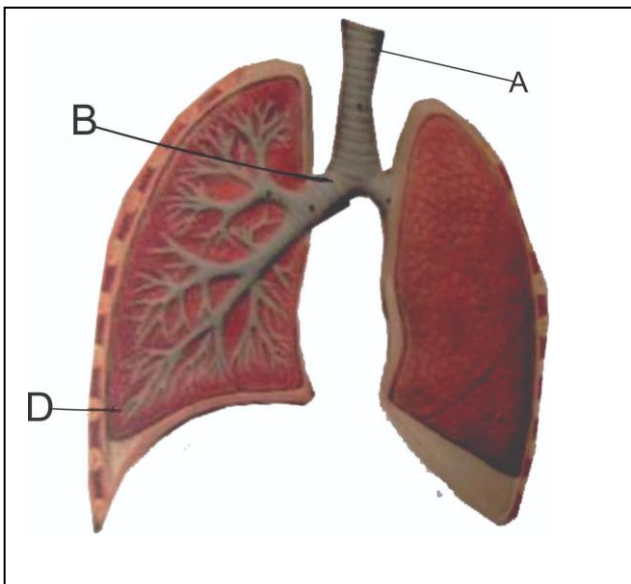
Method of dispersal:.....

Reason.....

(iv) Draw and label a diagram of cut specimens S.

(4marks)

3, Study the diagrams below and answer the questions that follow.



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

(4marks)

- A.....
- B.....
- C.....
- D.....

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

(2marks)

.....

.....

.....

.....

(iii) State **one** function of the part labeled C.

(1mark)

.....

.....

b) State **three** adaptations of the part labeled D.

(3marks)

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KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

121/1

Mathematics

Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- Write your name, index number and date in the spaces provided at the top of this page.
- Write name, admission number and class in the spaces provided above.
- This paper contains **TWO** sections: **section I** and **section II**
- Answer **ALL** the questions in **Section I** and only **five** questions from **section II**.
- Show **all the steps in your calculations, giving your answers at each stage in the spaces provided below each question.**
- Marks may be given for correct working even if the answer is wrong.
- Non-programmable** silent electronic calculators and KNEC mathematical tables may be used except where stated otherwise.

FOR EXAMINER'S USE ONLY:

Section I

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

Section II

GRAND TOTAL

17	18	19	20	21	22	23	24	TOTAL

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SECTION 1 (50 MARKS)

Answer all questions in this section in the spaces provided.

1. Without using a calculator or mathematical table evaluate

$$\frac{1}{3} \text{ of } (2\frac{3}{4} - 5\frac{1}{2}) \times 3\frac{6}{7} \div \frac{9}{4}$$

(3mks)

2. Solve for x in the equation.

$$9^{(2x-1)} \times 3^{(2x+1)} = 243$$

(3mks)

3. A line P whose equation is $y = \frac{1}{3}x + 4$ is parallel to another line Q. Find the equation of line Q in the form $y = mx + c$ given that it passes through Point (3, 6)

(3mks)

4. Using reciprocals, cubes and square tables, evaluate correct to 4 significant figures: **(4mks)**

$$\sqrt[3]{\frac{1}{27.38}} + 1.897^2$$

5. A point P (2, 3) is mapped onto P' (-7, 0) under an enlargement with scale factor of -2 without drawing find the centre of enlargement. **(3mks)**

6. A businessman bought 100 textbooks and 80 pens for sh. 25,600. If she had bought twice as many textbooks and half as many pens she would have paid sh. 7,400 less. Find the cost of one textbook and one pen. **(3 mks)**

7. The table below shows the number of faulty balls from 40 samples.

No. of faulty balls (χ)	0	1	2	3	4	5
Frequency	20	8	6	1	1	4

Calculate the mean.

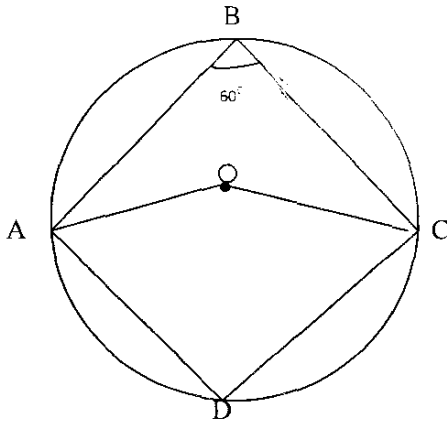
(3mks)

8. Draw a sketch and find the area in hectares of a coffee field whose measurements are entered in a field book as shown below. Take $XY = 200\text{m}$ as the baseline.

(4 marks)

	Y	
	180	40 to Q
To R 80	140	
To S 160	100	
	40	100 to P
	X	

9. In the following figure, O is the centre of the circle. Given that Angle ABC 60° , find the value of the angle ADC. (2mks)



10. From the top of a cliff the angle of depression of a ship when it is at A is 30° . When the ship moves 100m to point B, nearer the cliff, the angle of depression becomes 45° . Find the height of the cliff leaving your answer to 3.s.f (4mks)

11. During a football match, sh. 1,462,800 was realized from stadium entrance fees. If the entrance fee was sh. 80 per person, calculate how many fans paid to watch match. (2 mks)

12. A Kenya Bank buys and sells foreign currencies as shown

	Buying (Kshs)	Selling (Kshs)
1 Euro	84.15	84.26
100 Japanese Yen	65.37	65.45

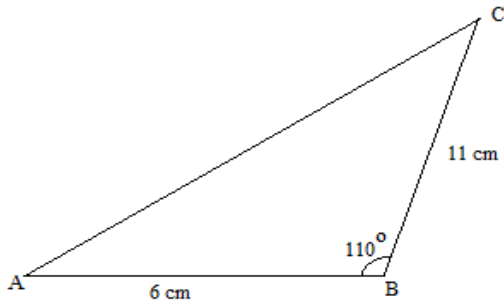
A Japanese travelling from France to Kenya had 5000 Euros. He converted all the 5000 Euros to Kenya shillings at the bank. While in Kenya, he spent a total of Kshs. 289850 and then converted the remaining Kenya shillings to Japanese Yens at the Bank. Calculate the amount in Japanese Yen that he received. **(3mks)**

13. The width of a rectangular hall of Ruiru Girls Secondary School is 16m less than its length.

Calculate the length of the hall if its area is 132m^2 . Hence calculate its perimeter. **(4 mks)**

14. The volume of a hemisphere is 41.2cm^3 . Calculate, correct to one decimal place, the radius of the hemisphere **(3mks)**

- 15.** The figure below shows a triangle ABC in which $AB = 6\text{cm}$, $BC = 11\text{cm}$ and angle $ABC = 110^\circ$. Calculate to the decimal places the length of AC. **(3mks)**



- 16.** A regular polygon has internal angle of 150° and side of length 10cm. Find the number of sides of the polygon. **(2mks)**

Find the perimeter of the polygon. **(2mks)**

SECTION 1I (50 MARKS)

Answer any five questions from this Section.

17. A matatu left town K at 7.00a.m and travelled towards town M at an average speed of 60km/hr. A car left town M at 9.00a.m and travelled towards K at an average speed of 80km/hr.

The distance between the two towns is 324km. Find:-

(a) The time each vehicle arrived at their destination

(i) Matatu

(2mks)

(ii) Car

(2mks)

b. (i) the distance the matatu had covered before the car started to move from town M to town K

(1mk)

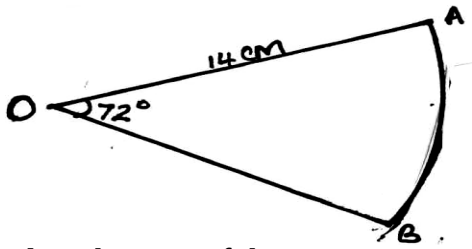
(ii) The time the two vehicles met on the way

(3mks)

(ii) How far the car was from town K when they met

(2mks)

18. The figure below shows a sector of a circle. If the radius $OA = 14\text{cm}$ and the angle $AOB = 72^\circ$.



(a) Calculate the area of the sector.

(2mks)

(b) The sector is folded to form a cone. Calculate:-

(i) The radius of the cone formed.

(2mks)

(ii) The volume of the solid formed.

(3mks)

(c) A solid cone of same size as the one in (b) above is melted down and casted into circular washers. Each washer has an external diameter of 4cm , internal diameter of $1\frac{1}{2}\text{cm}$ and 0.3cm thick. Calculate number of washers made.

(3mks)

19.a) Find the inverse of matrix $A = \begin{bmatrix} 5 & 6 \\ 7 & 9 \end{bmatrix}$ (**2mks**)

b) Okelo bought 5 physics book and six mathematics book for a total of Ksh.2440. Ali bought 7 physics book and 9 mathematics books for a total cost of ksh.3560.

i) Form a matrix equation to represent the a book **information** (1mk)

ii) Use matrix method to find the price of a physics book and that of a mathematic (3mks)

c) A school bought 36 physics books and 50 mathematics books. A discount of 5% was allowed on each Physics book whereas a discount of 8 % was allowed on each Mathematics book. Calculate the percentage discount on the cost of all the books bought. (4mks)

20). Forty students in a form 2 class were weighed and their masses recorded to the nearest kilogram as shown below.

45	48	56	39	47	36	45	37
46	35	43	51	42	47	47	40
	45	43	46	54	42	51	39
	44	49	50	46	39	42	48
	45	35	52	46	50	38	

a) Starting with the class 35-39 tabulate this data in a frequency table **(3mks)**

b) Find the modal class **(1mk)**

c) Calculate the mean mass of the students **(3mks)**

d) Estimate the median mass **(3mks)**

21. In triangle OAB, $OA = a$ and $OB = b$. Points P and T divide OB and AB in the ratio 2:3 and 1:3 respectively. Lines OT and AP intersect at Q.

(a) Draw the diagram to represent the above information. **(1mk)**

(b) Express $\vec{OP}$ and $\vec{AP}$ in term of a and b . **(2mks)**

(c) Express $\vec{OT}$ in terms of a and b . **(1mk)**

(d) Given further that $\vec{OQ} = t\vec{OT}$ and $\vec{AQ} = s\vec{AP}$, express $\vec{OQ}$ in two ways and hence find the values of s and t . **(6mks)**

22. A metal R is an alloy of two metals X and Y. Metal X has a mass of 70g and a density of 16g/cm^3 . Metal Y has a mass of 19g and a density of 4g/cm^3 .

(a) Calculate the density of the metal R. **(4mks)**

(b) If metal R is divided into two equal parts and each half reinforced by adding metal X to get to initial volume. Find the density of the new alloy. **(4mks)**

The two metals are mixed in a ratio of 4:1 respectively. What is the density of the alloy?
(2mks)

23. Meshach and Kelvin contributed shs. 60,000 and sh. 90,000 respectively in order to start business. They employed a manager and agreed to pay him sh. 4,500 per month from the profit made each year. They also agreed that 20% of the profit made each year would be put back into the business while the rest would be shared between them in the ratio of their initial contribution. During the first year they made a profit of sh. 365,000. Calculate:-

(a) The manager's annual salary for that year **(1mk)**

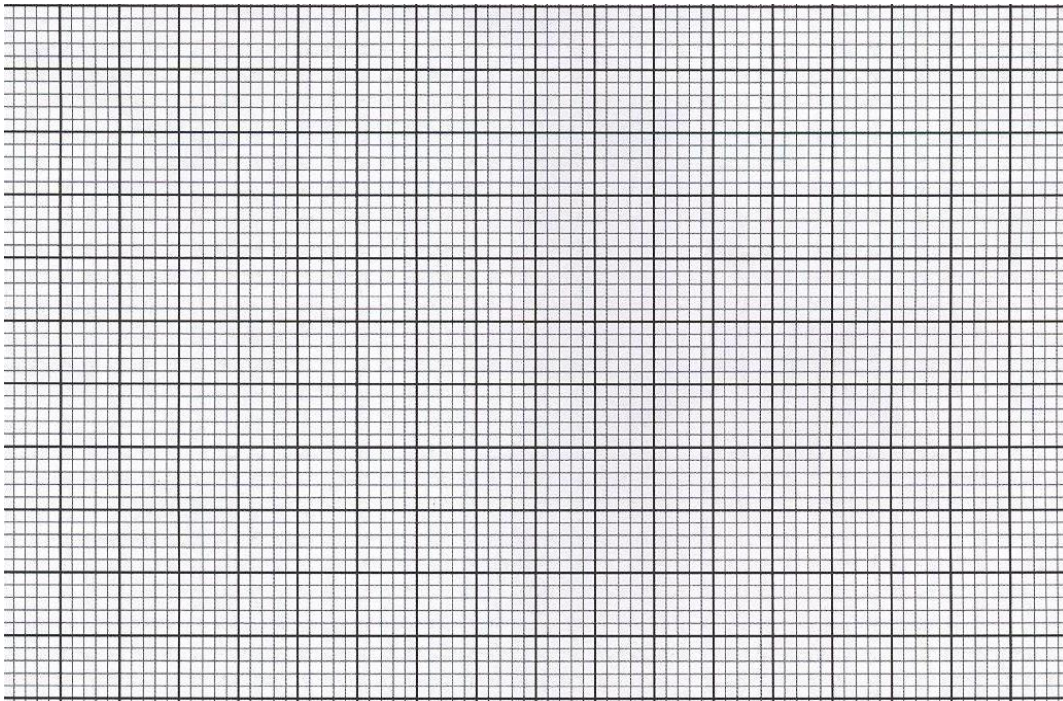
(b) The money put back into business that year. **(2mks)**

(c) The business net profit for that year. **(2mks)**

(a) How much each partner received that year. **(3mks)**

(e) The capital for the following year. **(2mks)**

24. A car starts from rest and builds up a speed of 40m/s in 1 min 40 seconds. It then travels at this speed for 5 minutes. Brakes are then applied and the car is brought to a halt in 2 minutes.
- (a) Draw a velocity-time graph to represent the information above. (3mks)



- (b) Use your graph to find
- (i) The initial acceleration. (2mks)
- (ii) The deceleration when the car is brought to a halt. (2mks)
- (iii) The distance traveled in km. (3mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

121/2

Mathematics

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) Write your name, index number and date in the spaces provided at the top of this page.
- b) Write name, admission number and class in the spaces provided above.
- c) This paper contains **TWO** sections: **section I** and **section II**
- d) Answer **ALL** the questions in **Section I** and only **five** questions from **section II**.
- e) **Show all the steps in your calculations, giving your answers at each stage in the spaces provided below each question.**
- f) Marks may be given for correct working even if the answer is wrong.
- g) **Non-programmable** silent electronic calculators and KNEC mathematical tables may be used except where stated otherwise.

FOR EXAMINER'S USE ONLY:

Section I

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

Section II

17	18	19	20	21	22	23	24	TOTAL

GRAND TOTAL

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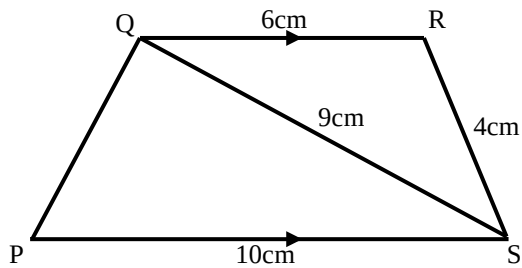
SECTION 1 (50 MARKS)

Answer all questions in this section in the spaces provided.

1. A positive two digit number is such that the product of the digits is 24. When the digits are reversed, the number formed is **greater** than the original number by 18. Find the number.

(2mks)

2. In the figure below PQRS is a trapezium with QR parallel to PS. QR = 6cm, RS = 4cm, QS = 9cm and PS = 10cm.



Calculate to two decimal places

- (a) The size of angle **SQR**

(2Marks)

- (b) The area of triangle **PQS**

(2Marks)

3. The height and radius of a cone are measured as 21 cm and 14.0 cm respectively. Taking $\pi = 3.142$, find the **percentage error** in the volume of the cone. **(4mks)**

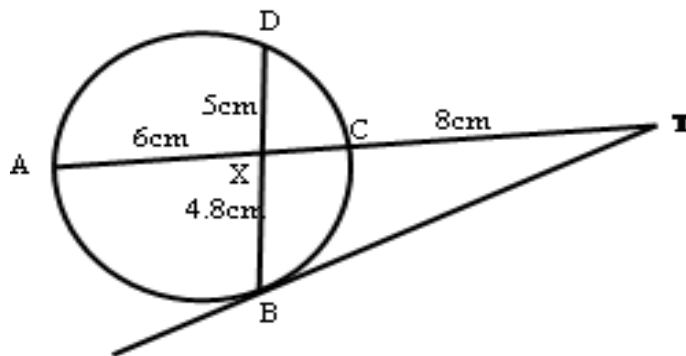
4. Express the following in **surd form** and simplify by rationalizing the denominator without using a calculator and leave your answer in the form $a + b\sqrt{c}$ **(3mks)**

$$\frac{1 + \cos 30^\circ}{1 - \sin 60^\circ}$$

5. Solve for x in: $\log_2(x + 7) - \log_2(x - 7) = 3$ **(3mks)**

6. A businessman obtained a loan of Ksh 450,000 from a bank to buy a Matatu that was valued at the same amount. The bank charges interest at 24% per annum compounded quarterly per year. Calculate the **total amount** of money the businessman paid to clear the loan in $4\frac{1}{2}$ years to the nearest shilling. **(2mks)**

7. In the diagram below, BT is a tangent to the circle at B. AXCT and BXD are straight lines. AX = 6cm, CT = 8cm, BX = 4.8cm and XD = 5cm.



Find the length of **BT**.

(3Marks)

8. Find the possible values of x given that $\begin{pmatrix} x+8 & 8 \\ 6 & x \end{pmatrix}$ is a **singular** matrix. (3mks)
9. The cost C of operating an electronic business is partly constant and partly varies as the square of labour input L . If $C=25,000$ when $L=20$ and $C=45,000$ when $L=30$. Find C when $L=8$. (3Mks)
10. The 2nd, 4th and 7th terms of an A.P. are the first 3 consecutive terms of a G.P. Find the **common ratio** of the G.P if the common difference of the A.P. is 2. (3mks)

11. P and Q are two points such that $OP = i + 2j + 3k$ and $OQ = 4i + 5j - 3k$. M is a point that divides PQ externally in the ratio 3:2. Find the co-ordinates of M, given that O is the origin.
(2mks)
12. Two bags labeled A and B are on the table. Bag A contains 5 red balls and 3 white balls, while bag B contains 2 red balls and 6 white balls. A bag is chosen at random and two balls are drawn from it, one after the other **without replacement**. Find the probability that the two balls chosen are of different colours.
(4mks)

13. Tap A can fill an empty tank in 3 hours, while tap B can fill the same tank in 2 hours. When the tank is full, tap C can empty the tank in 5 hours. Tap A and C are opened for 4 hours and then closed.

a) Determine the fraction of the tank that is still empty. **(2mks)**

b) Find how long it would take to fill the remaining fraction of the tank if all the three taps are opened. **(2mks)**

14. Determine the interquartile range for the following set of numbers. **(3mks)**

4, 9, 5, 4, 7, 6, 2, 1, 6, 7, 8.

15. Solve the equation $\sin(\theta - 10^\circ) = 0.4337$ for $0^\circ \leq \theta \leq 180^\circ$

(3mks)

16. (a) Expand and simplify $(3x - y)^4$

(2mks)

(b) Use the first three terms of the expansion to approximate the value of $(6 - 0.2)^4$

(2mks)

SECTION II (50 MARKS)

Answer any five questions from this Section.

17. (a) Taking the radius of the earth, $R = 6370\text{km}$ and $\pi = \frac{22}{7}$, calculate the shortest distance between the two cities P (24°N , $29^\circ 48'\text{W}$) and Q (24°N , $30^\circ 12'\text{E}$) along the parallel of latitude.
- (i) In nautical miles. (3mks)

- (ii) In Km. (2mks)

- (iii) If it is 1200hrs at **P**, what is the local time at **Q**. (2mks)

- (b) An airplane flew due south from a point A (60°N , 45°E) to a point B. The distance covered by the airplane was 8000km. Determine the position of B. (3mks)

18. A particle moves along a straight line such that its displacement S metres from a given point is

$$S = t^3 - 5t^2 + 3t + 4.$$

a) The displacement of the particle at $t=5$ **(2mks)**

b) The velocity of the particle when $t=5$ **(3mks)**

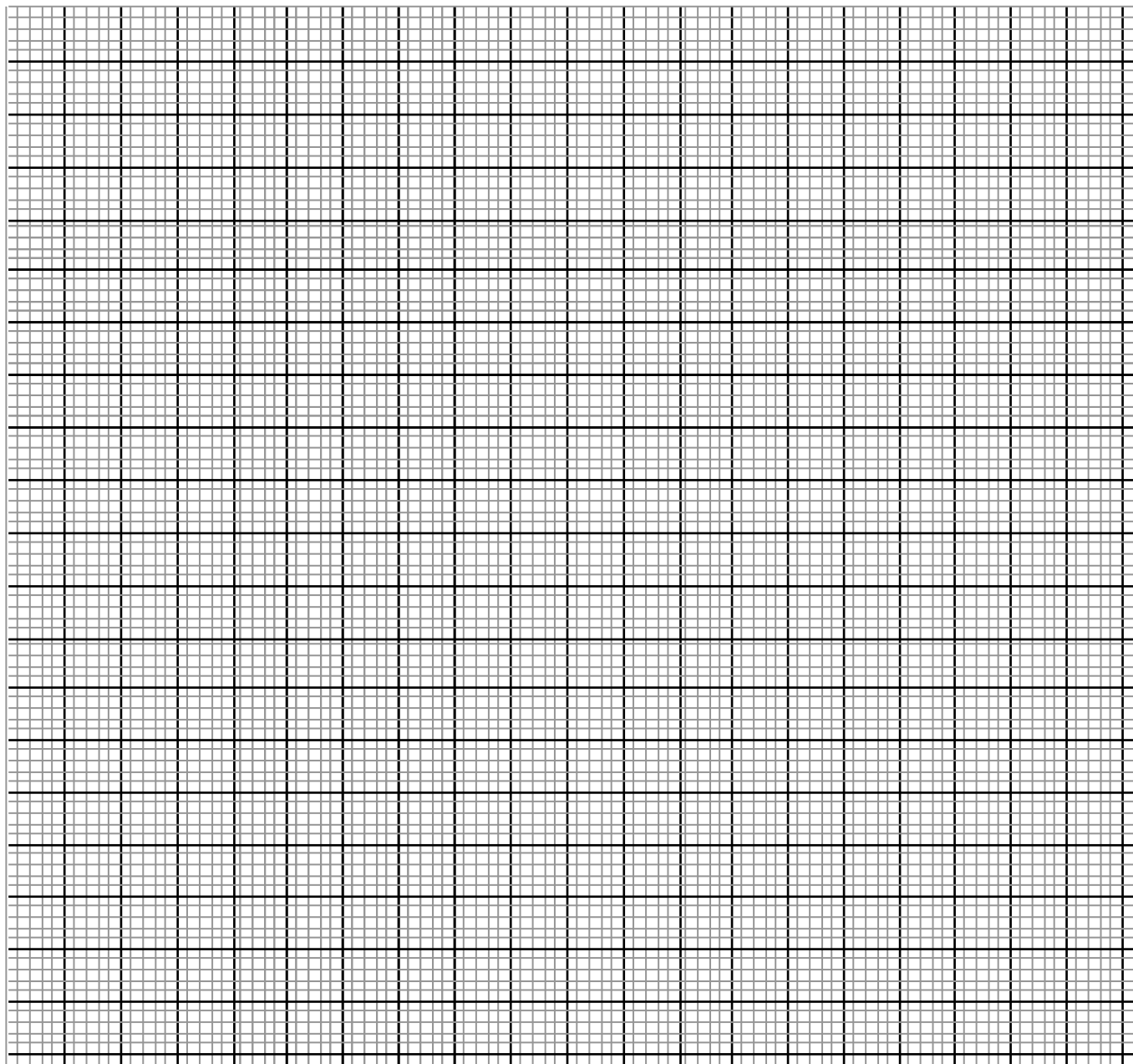
c) The value of t when the particle is momentarily at rest. **(3mks)**

d) The acceleration of the particle when $t=2$. **(2mks)**

19. (i) A solution was gently heated, its temperature readings taken at intervals of 1 minute and recorded as shown in the table below.

Time (min)	0	1	2	3	4	5
Temperature($^{\circ}\text{C}$)	4	5.2	8.4	14.3	16.8	17.5

- a) Draw the time-temperature graph on the grid **provided** (3mks)



b) Use the graph to find the average rate of change in temperature between $t = 1.8$ and $t = 3.4$
(2mks)

(ii) The points with coordinates (5,5) and (-3, -1) are the ends of a diameter of a circle center A.
Determine

(a) The coordinates of A. (2mks)

(b) The equation of the circle, expressing it in form of $x^2 + y^2 + ax + by + c = 0$ (3mks)

20. Mrs. Mutua earns a basic salary of K£ 12,000 p.a. and is housed by the employer at a nominal rent of Shs 1,200 per month. She is entitled to a personal relief of K£ 1,320 p.a. and a premium relief of 10% on her insurance premium of K£ 800 p.a. The housing benefit when you are housed by the employer is 15% of the basic salary. The table of tax rate is as below.

Taxable income (K£ p.a.)	Rate (%)
1 – 2100	10
2101 – 4200	15
4201 – 6300	20
6301 – 8400	25
Over 8400	30

Calculate;

a) Calculate the net tax per annum. **(7mks)**

b) Other deductions includes W.C.P.S Shs 600 per month, NHIF Shs. 500 per month. Calculate her net pay per month. **(3mks)**

21. Using a ruler and a compass only, construct a triangle ABC such that $AB = 6.8$ cm, $BC = 5.6$ cm and angle $ABC = 37\frac{1}{2}^\circ$ **(3mks)**

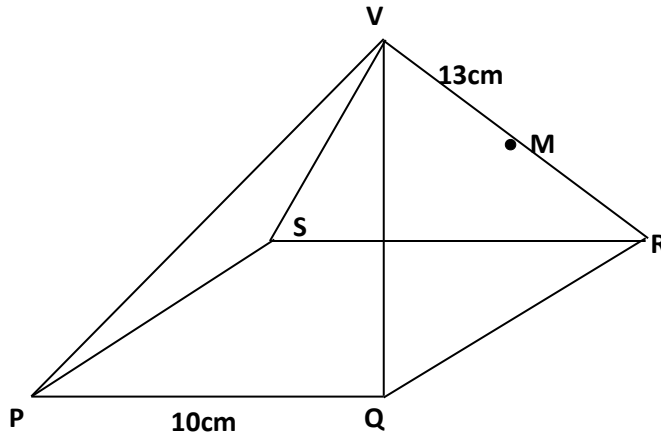
(b) Locate the :

(i) Locus P such that angle APB = angle ACB **(3mks)**

(ii) Locus Q such that Q is equidistant to points A and B **(2mks)**

(iii) Locus R such that R is equidistant to lines AB and AC **(2mks)**

22. The diagram below shows a square based pyramid **V** vertically above the middle of the base.
PQ = 10cm and **VR** = 13cm. **M** is the midpoint of **VR**.



Find to 2 decimal places

- (a) (i) the length **PR**. (2mks)

- (ii) The height of the pyramid. (2mks)

- (b) (i) the angle between **VR** and the base **PQRS**. (2mks)

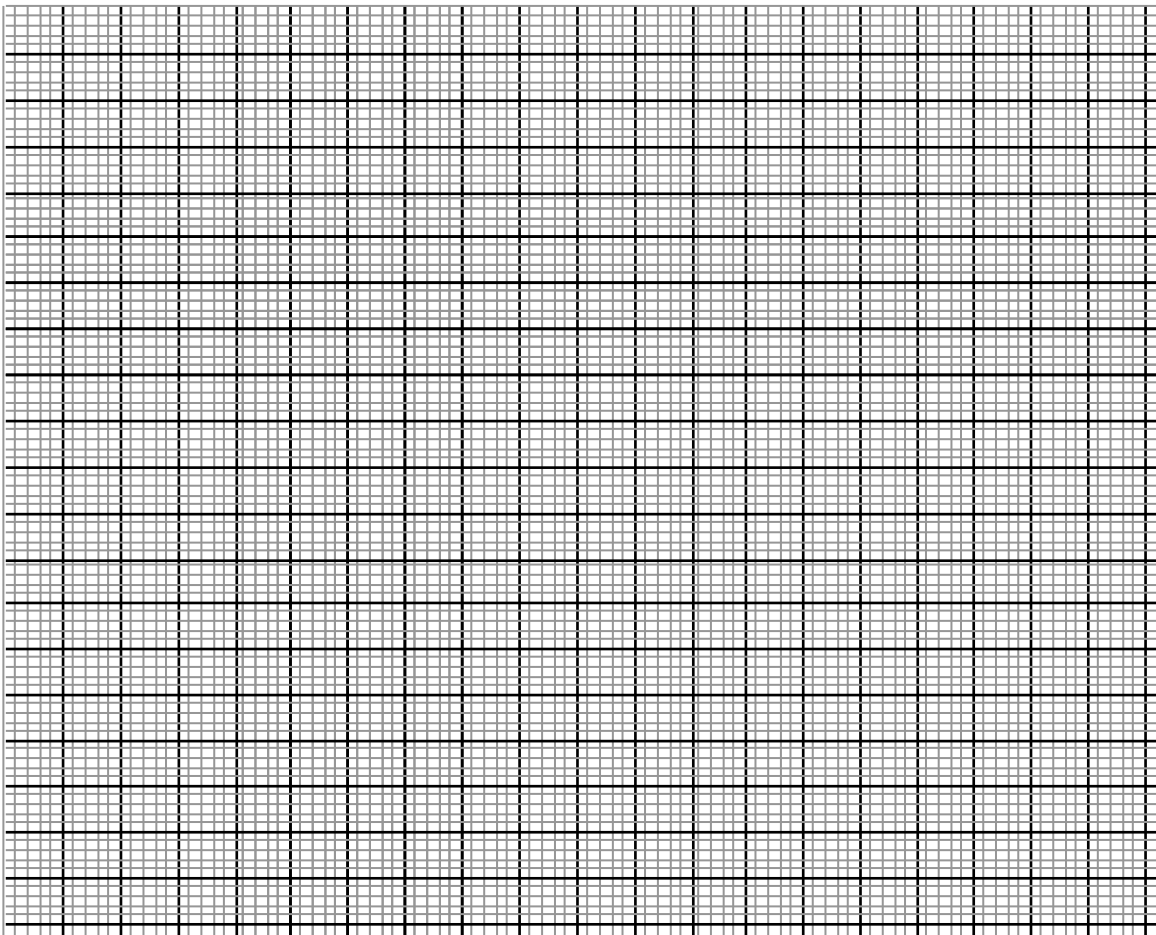
- (ii) The angle between **MR** and the base **PQRS**. (2mks)

- (iii) The angle between the planes **QVR** and **PQRS**. (2mks)

23. A farmer has at least 50 acres of land on which he plans to plant potatoes and cabbages. Each acre of potatoes requires 6 men and each acre of cabbages require 2 men. The farmer has 240 men available and he must plant at least 10 acres of potatoes. The profit in potatoes is Ksh 1,000 per acre and on cabbages ksh. 1,200 per acre. If he plants x acres of potatoes and y acres of cabbages:

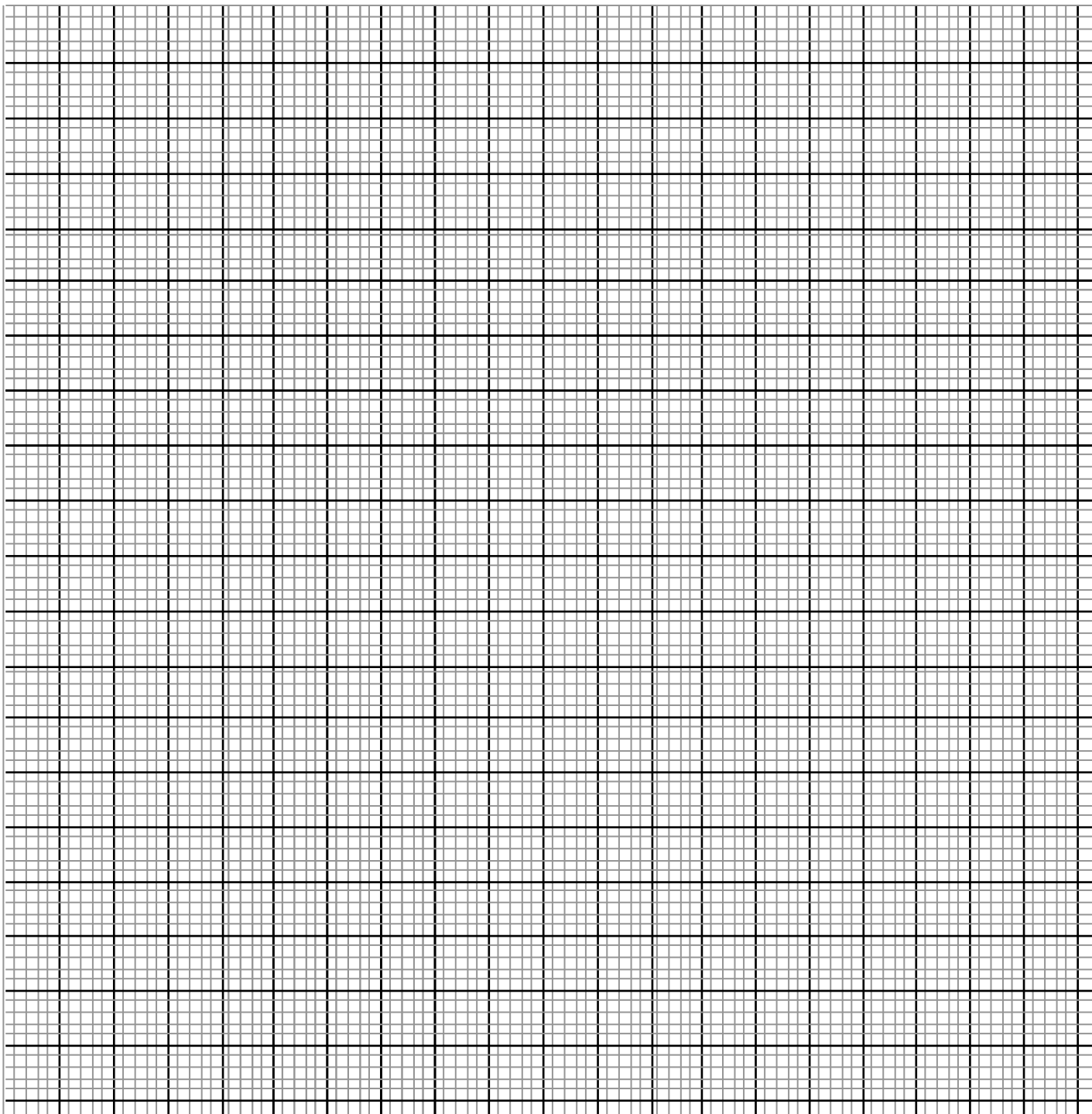
(a) Write down three inequalities in x and y to describe this information. **(3mks)**

(b) Represent the above inequalities on the graph below. **(5mks)**



(c) Use your graph to find the number of acres of each crop that the farmer should plough to get maximum profit. Calculate the maximum profit. **(2mks)**

24.a) On the grid provided, draw a graph of the function $y=\frac{1}{2}x^2 - x + 3$ for $0 \leq x \leq 6$.(3mks)



- b)** Determine the midordinates for 5 strips between $x=1$ and $x=6$, and hence use the mid-ordinate rule to approximate the area under the curve between $x=1$ and $x=6$ and the x -axis. **(3mks)**
- c)** Assuming that the area determined by integration to be the actual area, calculate the percentage error in using the mid-ordinate rule. **(4mks)**

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

451/1 **Computer Studies (Theory)** Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- Write your Name and Index Number in the spaces provided.
- This paper consists of TWO sections: A and B
- Answer **ALL** questions in **section A**
- Answer question **16** and any other **THREE** questions from **section B**
- All answers should be written in the spaces provided in the question paper

FOR EXAMINERS USE ONLY.

Section	Question	Candidates Score
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
Total Score		

SECTION A (40 Marks)

Answer all the questions in this section

1. Differentiate between master file and transaction file. (2 mark)

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2. Give two reasons why smaller computers like laptops tend to be more expensive than desktop computers. (2marks)

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3. List two disadvantages of using traditional file management method. (3marks)

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4. List three sources of graphics that can be used in Microsoft word. (3marks)

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5. Mention two things that are likely to cause eye strains. (2marks)

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6. State two reasons why magnetic tapes are not commonly used as computer data storage medium today. **(2marks)**

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8. Explain the difference between Gas Plasma Display and Liquid Crystal display Monitors. **(2marks)**

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9(a) Differentiate between logical and syntax errors encountered in programming. **(2marks)**

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(b)What is a computational error? Give an example to illustrate. **(2marks)**

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10. Anne was working on her computer studies project. She was worried of the media to use for storing her data. She settled on a media that used serial file organization.

a) How are files organized on a storage medium using this method? **(2marks)**

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b) List two advantages offered by this type of file organization. **(2marks)**

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11. Define the following terms in relation to computer security: **(4marks)**

a) Data Encryption

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b) Firewall

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12. State what is meant by each of the following and give an example of where each is used.

(a) Magnetic Ink Character Recognition (MICR) **(1 mark)**

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(b) Optical mark reader (OMR) **(1 mark)**

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13. (a) Describe the term data integrity. **(2 marks)**

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(b) State four situations in which data may lose integrity.

(2 marks)

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14. State three advantages of using robots in manufacturing of goods.

(3marks)

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15. State three ways in which ICT can be used in shipping control.

(3 marks)

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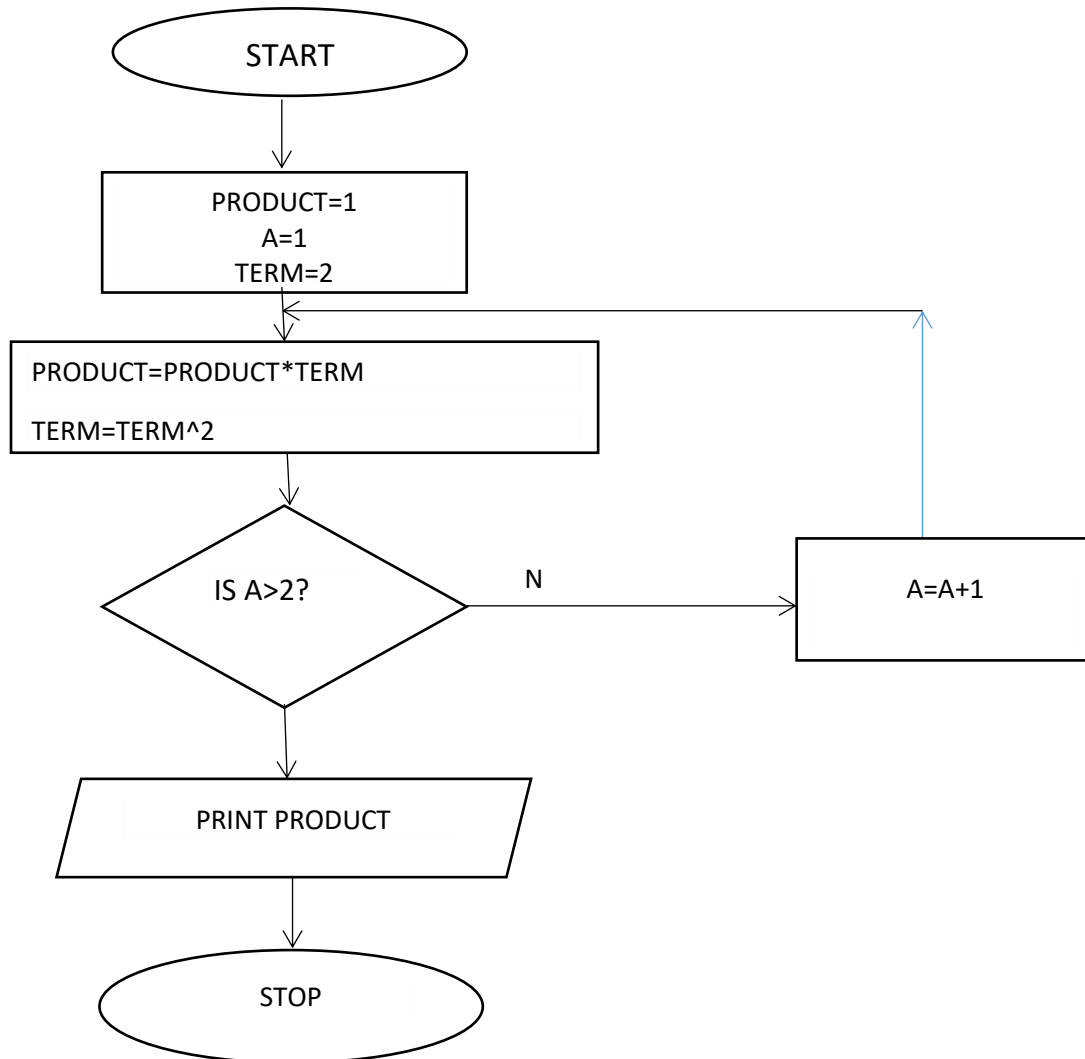
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SECTION B (60 Marks)

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

16.(a). Study the flowchart below and answer the questions that follow.



(i) State the main type of control structure used in the flowchart. **(1 mark)**

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(ii). Dry run the flowchart and give the expected output. **(5 marks)**

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(iii) What will be the value of product when printed in the following flow chart? Show how you arrive at your answer. **(5 marks)**

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(b). Explain what happens when the expression $A = A+1$ is changed to $A = A-1$ **(2 marks)**

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c) Give two benefits of structured programming **(2 marks)**

.....

.....

.....

17. (a) State three reasons why it is difficult to detect and prevent computer crimes. **(3marks)**

(b) State three characteristics of a suitable password. **(3marks)**

(c) What is a spyware? **(2marks)**

(d) A school intends to set up an e-learning system. List three problems that are likely to be encountered. **(3marks)**

(e) What is a search engine? **(1mark)**

(f) Give two examples of search engine. **(1mark)**

(g) Differentiate between internet and intranet. **(2marks)**

18.(a) State three standard data coding schemes used in computing and electronic systems.

(3marks)

(b). Convert each of the following numbers:

i. 110.101_2 to decimal **(3marks)**

ii. 12.6875_{10} to binary **(3marks)**

(c). Subtract 110.01_2 from 11001.0101_2 **(2marks)**

(d). Using seven-bit twos complement, perform the following binary arithmetic leaving the answer in binary notation.

$1101_2 - 100101_2$ **(4marks)**

19. (a) Give three benefits of using a **DTP software** in publishing over a **Word processor** **(3 marks)**

(b). Robots are introduced in a factory which makes car engines. Mention three ways this could affect the workers. **(3 marks)**

(c). Name any two computer related courses that are offered at public universities in Kenya. **(1 mk)**

(d). List two duties performed by each of the following personnel.

(i). Database administrator **(2 marks)**

(ii). Computer trainer. **(2 marks)**

e) Briefly describe the two types of spreadsheets **(4 marks)**

20.(i) Define a system. **(1mark)**

(ii) Explain system entropy. **(1mark)**

(b) Describe three circumstances that can lead to development of new information system.

(3marks)

(c) Distinguish parallel changes over from straight change over as used in system implementation.

(2marks)

(d) Explain two fact finding methods used during system analysis and design. **(2 marks)**

(e) Name any two types of cables used in data communication **(2 marks)**

(f) State four differences between LAN and WAN **(4 marks)**

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

451/2

Computer Studies

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

451/2

COMPUTER STUDIES

Paper 2

PRACTICAL

2 ½ Hours

INSTRUCTIONS TO CANDIDATES

- ✓ Type your name and index number at the top right hand corner of each printout.
- ✓ Write the name and version of the software used for each question attempted in the answer sheet.
- ✓ Passwords should NOT be used while saving in the CD.
- ✓ Answer all questions
- ✓ All questions carry equal marks

QUESTION 1

2 a) Type the following passage exactly as it appears using a word processor and save it as

EXERCISE

(20marks)

PROCESS OF INFORMATION SYSTEM DEVELOPMENT

INTRODUCTION TO INFORMATION SYSTEM DEVELOPMENT

The methodology area can justly be described as a jungle. Firstly there appears to exist many hundreds of the system development methodologies. Longworth (1985) in a recent study identified over 300. If all these are different, then it is no wonder that there is so much confusion. However, it may be that the differences are trivial and are made solely to differentiate methodologies in the market place

WHAT IS A METHODOLOGY?

The term methodology is not well defined either in Literature or by practitioners.

There is very little agreement as to what it means other than at a general level. The term is usually used very loosely and yet it is used very extensively.

This loose use does not mean that there are no definitions, simply that there are no universally agreed definitions. At the general level, it is regarded as a recommended series of steps and procedures to be followed in the course and developing an information system. In a brief adhoc survey, this proves to be about the maximum that people will agree to and of course such a definition raise many more questions than it answers.

For example:

- What is the difference between a methodology and a method?
- Does a methodology include a specification of the techniques and tools which are to be used?
- Does a collection of techniques and tools constitute a methodology?
- Should the use of a methodology produce the same results each time?

The questions that arise are fundamental as well as numerous. Unfortunately the most that can be achieved is to air the issues. The information system community is in the process of debating the meaning of the term methodology in an information system context, and it may one day have a universal definition. However, it may be more realistic to assume that this will never be achieved. An information system's methodology has been defined as a recommended collection of philosophies, phase, procedures, rules, techniques, tools, documentation, management and training for developers of information systems.(Madison 1983). According to this definition, a methodology has a number of components.

Which specify:

- How a project is to be broken down into stages
- What tasks are to be carried out at each stage
- What outputs are to be produced
- When they are to be carried out
- What constraints are applied
- What support tools may be utilized

In addition, the methodology is supposed to specify how the project is to be managed and controlled and support the training needs of the users of the methodology. This is all encompassed in a view or philosophy concerning the important and critical aspects of information systems development.

Required:

- b) Remove the underline from all the underlined and change the text to bold and italics. Apply hanging indent to the first two paragraphs. Save the document as EXERCISE 2. **(6marks)**
- c) Select the text starting from the words "For example:.....information systems development" (at the end of the passage) and move it to a new page and save as EXERCISE 3. **(5 marks)**
- d) (i) Retrieve **EXERCISE** document and convert it to two columns of the same width and height and justify them. **(6marks)**
- (ii) Double space the first paragraph of the passage and fit the entire passage into one page **(4mks)**
- (iii) Insert your name into the passage as a footer so as to appear as © your name. Save the document as **EXERCISE 4.** **(5marks)**
- d) Print **EXERCISE, EXERCISE 2, EXERCISE 3, EXERCISE 4** **(4marks)**

2. Table 1, table 2 and table 3 are extracts of records, kept in a carpentry shop. Use the information to answer the questions that follow;

Carpenter Table

CAPENTER_ID	CAPENTER NAME
CAP_001	AMES
CAP_002	OHN
CAP_003	ALEX
CAP_004	SAAC
CAP_005	MAURICE

Customer Table

CUSTOMER_ID	CUSTOMER NAME
CUST_01	MARY K.
CUST_02	DIANA K.
CUST_03	ALEX N.
CUST_04	MARTHA K.
CUST_05	SARAH W.
CUST_06	JOHNSON G.

Order Table

CARPENTER _ID	CUSTOMER _ID	ORDER _NO	ITEM ORDERED	MONTH	AMOUNT
CAP_001	CUST_01	1721	Bench	January	18,000
CAP_002	CUST_02	1722	Coffee table	January	25,000
CAP_003	CUST_03	1723	Office table	January	10,000
CAP_004	CUST_04	1724	Single bed	January	18,000
CAP_005	CUST_05	1725	Arm chair	January	60,000
CAP_001	CUST_01	1726	Double bed	February	75,000
CAP_002	CUST_04	1727	Dining table	February	85,000
CAP_004	CUST_03	1728	Arm chair	February	60,000
CAP_001	CUST_02	1729	Double decker bed	February	72,000
CAP_002	CUST_06	1730	Kitchen table	February	82,000
CAP_004	CUST_02	1731	Bench	March	18,000
CAP_003	CUST_06	1732	bench	march	18,000

- a) i) Using database application package, create a database file named;
CARPENTER INFORMATION (1mk)
- ii) Create three tables named Carpenter Table, Customer Table and Order Table that will be used to store the above data. (10mks)
- iii) Set the appropriate primary key for the tables (2mks)
- iv) Create relationship among the tables (2mks)
- b) i) Create a data entry form for each table and give them relevant names (3mks)
- ii) Enter the data in Carpenter Table, Customer Table and order Table respectively (11mks)
- c) i) Create a query named **individual income** to display the amount received from each customer every month. (4mks)
- ii) Create a query that computes Total income for each month. Save the query as **totalIncome**. (6mks)
- d) Create a query named loyalty to compute the total number of orders made by each customer over the three months. (3mks)
- e) Create a report to display order details, save the report as Order report (4mks)
- f) Print the three tables and the report (4mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

441/1

Home Science (Theory)

Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- Write your name and index number in the spaces above.
- This paper consists of three sections A, B and C.
- Answer all the questions in section A, Question 21(Compulsory) in section B and any two questions from section C.
- Answers to ALL questions must be written in this booklet.

FOR EXAMINERS'S USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATES SCORE
A	1 - 20	40	
B	21	20	
C	22	20	
	23	20	
	24	20	
TOTAL SCORE		100	

SECTION A (40 MARKS)

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

1. List down two reasons for covering food during cooking. (1mk)

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.....

2. (a) What is stitching? (1 mark)

.....

.....

- (b) Give two qualities of a well-made stitch. (1 mark)

.....

.....

3. Akinyi was machine stitching her apron then the needle broke suddenly. Give four causes for this. (2 marks)

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4. Soup is an important part of an invalid diet, give two reasons for this. (2 marks)

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.....

5. Name Two types of beriberi (2 marks)

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.....

6. What is a dessert? (1 mark)
-
-
7. Other than burning test, state two ways of identifying textile fibres. (2 marks)
-
-
8. List two preparations to make on a fabric before laying out patterns. (2 marks)
-
-
-
9. Give two reasons for using interfacings in garment construction. (2 marks)
-
-
10. List two reasons why sleeves are used in a garment. (2 marks)
-
-
-
11. State three disadvantages of hoarding of goods. (3 marks)
-
-
-
12. Name two nutrient disorders associated with lack of calcium in the body. (2 marks)
-
-
-

13. Give two reasons why lemon juice is sometimes added to fruit salads. **(1 mark)**

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14. Give two advantages of being able to draft your own patterns for your garment construction. **(2 marks)**

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15. Give two reasons for artificial feeding of the baby. **(2 marks)**

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16. Differentiate between overcasting and oversewing. **(2 marks)**

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17. Give four factors determining the cleaning efficiency of a detergent. **(2 marks)**

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18. Give two reasons why fullness is managed in garment during construction. **(2marks)**

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19. Give one reason for each of the following practices in cleaning.

(i) Cleaning a glass window from outside to the inside. (1 mark)

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.....

(ii) Cleaning a wall from down to up. (1 mark)

.....
.....

(iii) Sweeping with low long strokes. (1 mark)

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.....

(iv) Pouring hot water down a kitchen sink drain. (1 mark)

.....
.....

20. Give two reasons for fitting airbricks on the outer wall of a room. (2 marks)

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.....
.....

SECTION B (20 MARKS)

Compulsory

Answer question 21 in the spaces provided.

21. You have visited your grandmother for one week. Explain how you would assist in the following tasks.

(i) Laundering her heavily soiled nylon dress. (8 marks)

(ii) Thorough cleaning her sitting room floor made of polished wood. (8 marks)

(iii) Cleaning of an aluminum surface. (4 marks)

SECTION C (40 MARKS)

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

22. (i) Outline five reasons why hospital confinement is advisable. **(5 marks)**

(ii) State five qualities of a well-made collar. **(5 marks)**

(iii) Explain five considerations to make when furnishing a **room** **(5marks)**

(iv) Give five points to ensure the purchase of quality goods by consumers. **(5 marks)**

23. (i) State Five disadvantages of renting a house **(5 marks)**

(ii) Give the procedure of working a plain seam **(7 marks)**

(iii) List three factors to consider when setting a table **(3 marks)**

(iv) Name five fabrics which cannot be disinfected by boiling **(5 marks)**

24. (i) Outline five ways of saving energy when performing household tasks. **(5 marks)**

(ii) Give five rules for darning **(5 marks)**

(iii) State five pieces of information expected on a product certified by Kenya Bureau of Standards. **(5 marks)**

(iv) Mention five different types of fasteners used in garments. **(5 marks)**

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

441/2

Home Science

Paper 2

(Clothing Construction)

Time: 2½ Hours

SCHOOL.....

SIGN.....

Kenya Certificate of Secondary Education.

CONFIDENTIAL

Instructions to schools

The following materials will be provided by the school:

1. Plain lightweight cotton fabric 55cm long by 90cm
2. Sewing cotton thread to match the fabric
3. One embroidery thread to be used by all students.

**NB:FABRICS IN EXCESS OF THE AMOUNT MUST NOT BE SUPPLIED TO THE
CANDIDATES**

1. The schools will receive with papers for the practical examination:

- (a) copies of the question paper in a sealed envelope;
- (b) an envelope for each candidate containing the pattern;
- (c) an envelope for inserting the constructed garment.;

A printed pattern is being used. Before the examination, the teacher should explain to the candidate that it is not necessary to cut out the pattern pieces accurately before placing them on the fabric: it is necessary only to separate the pattern pieces.

2 Each candidate will require:

- (a) the basic sewing tools and equipment including cutting-out scissors, a safety pin approximately 2.25 cm long, dress maker's pins, a variety of needles, tape measure, pattern transferring items and a seam ripper;
- (b) a pencil and a small label bearing his/her name and index number, which is to be attached to his/her work at the end of the examination.

3. There should be sufficient table space allowed for each candidate to work freely. At least **four** sewing machines and **two** sets of pressing equipment should be provided for every **ten** candidates.

4. Schools offering a large number of candidates should arrange them in sessions according to availability of equipment. It should be noted that all sessions should fit **one** day only

5 The supervisor **must** not be the Home Science teacher but the Home Science teacher must be available in case the supervisor wishes to consult her/him.

6 The supervisor is asked to instruct the candidates that they are not to trim the raw edges of the fabric with pinking shears after the test has been completed.

7 When time for the test has expired, all **must** cease. Except that:

- (a) Owing to the limited amount of pressing equipment usually available, candidates may press their work after time has expired; and
- (b) They **must** sew labels on a single fabric before placing their work in the envelope.

8 At the end of the examination the scraps of the fabric left after the cutting out should **not** be included with the garment. The pattern need not be returned with the test.

9 A first aid box and a reliable clock should be provided

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

441/2

Home Science

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

HOMESCIENCE

Paper 2

2 ½ hours

INSTRUCTIONS TO CANDIDATES.

- a) *This paper consists of THREE printed pages*
- b) *Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.*

A pattern of a Childs bodice is provided.

You are advised to study the sketches, instructions and the layout before you begin the test.

Materials provided:

1. PATTERN PIECES

A. FRONT BODICE

B. BACK BODICE

C. BACK YOKE

D. COLLAR

E. BACKNECK FACING

2. Plain lightweight cotton fabric 55cm by 91cm wide

3. Sewing thread to match

4. Embroidery thread (one to be used by all candidates)

5. One large envelope.

THE TEST.

Using the materials provided, lay out, cut out and make THE LEFT HALF of Childs dress bodice to show the following processes;

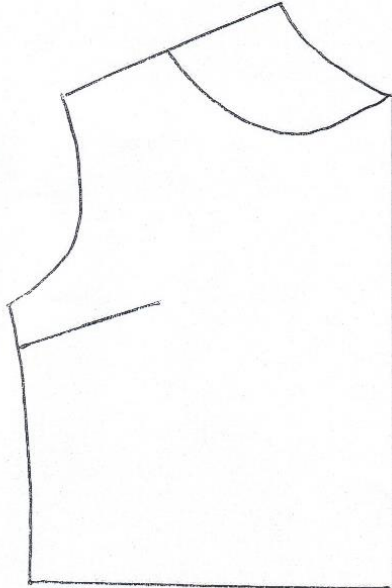
- | | |
|---|-----------------|
| a) Cutting out | 12 ½ mks |
| b) Making the bust dart | 8 mks |
| c) Preparation and top stitching of inverted pleat | 5 mks |
| d) Attaching the back yoke to the back bodice and using the an overlaid seam (Neaten half of it) | 8mks |
| e) Preparation of machine fell seam on the shoulder | 12mks |
| f) Preparing the interfaced collar demonstrate snipping on the collar | 6mks |
| g) Joining the back neck facing to the extended front facing and using it to attach the collar (Neaten the free edges of facing) demonstrate snipping on neckline. | 15mks |
| h) Working an open seam on the side seam | 9mks |
| i) Working of the buttonhole with rounded ends | 4mks |
| j) Embroidering the scroll at the bodice front using chain stitches | 6 ½ mks |

At the end of the examination, firmly sew onto your work, on a single fabric, a label bearing your name and index number.

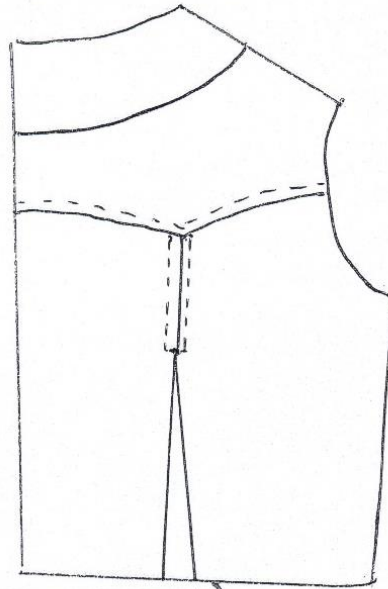
Remove the needle, pins and loose threads from your work. Fold your work neatly and place it in the envelope provided

DO NOT PUT SCRAPS OF FABRIC IN THE ENVELOPE. DO NOT SEAL THE ENVELOPE.

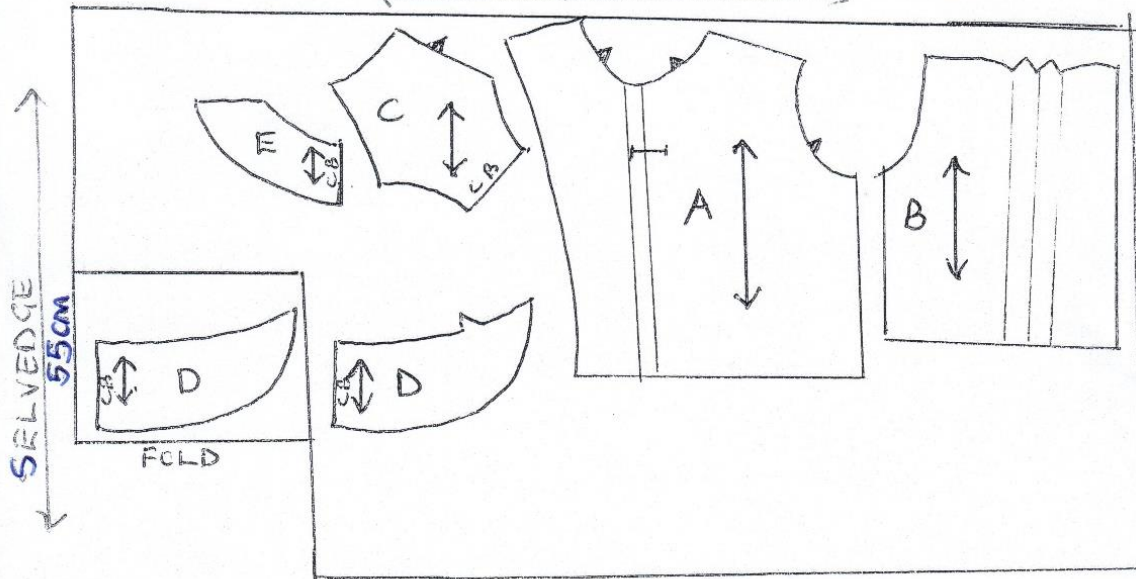
FRONT BODICE VIEW



BACK BODICE VIEW



90 cm



KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

441/3

Home Science

Paper 3

(Foods and Nutrition)

Time: 1¾ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

PLANNING SESSION: 30 MINUTES

PRACTICAL TEST SESSION: 1 ¼ HOURS

- (a) Read the test carefully*
- (b) No stationery is provided*
- (c) Write your name and index number on every sheet of paper used.*
- (d) Text books and recipes may be used during the planning session as reference materials.*
- (e) You will be expected to keep to your order of work during the practical session,*
- (f) You are only allowed to take away your reference materials at the end of the planning session.*
- (g) You are not allowed to bring additional notes to the practical session.*

You are hosting your two friends who came on an overnight stay in your home. Using all the ingredients listed below prepare, cook and present 3 tea items for a full breakfast for the three of you. Include a beverage.

Ingredients

- Baking flour
- Baking powder
- Eggs
- Cooking oil/fat
- Sweet potato/arrow roots
- Lettuce/cucumber/tomatoes
- Drinking chocolate/tea/cocoa
- Sugar
- Milk
- Salt
- Margarine

Planning session – 30minutes

For each task listed below, use separate pieces of paper and make duplicate copies using carbon paper then proceed as follows:-

1. Identify the dishes and write down the recipes
2. Write down your order of work
3. Make a list of the foodstuff and equipment you will require.

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

314/1

Islamic Religious Education

Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) Write your name and index number in the spaces provided above.
- b) Sign and write the date of examination in the spaces provided above
- c) This paper consists of SIX questions
- d) Answer any FIVE questions in the spaces provided at the end of question six
- e) Candidates should check the question paper to ascertain that all the questions are available
- f) Candidates should answer the questions in English

FOR EXAMINER'S USE ONLY

Question	1	2	3	4	5	6	Total score
Candidate's score							

Answer any FIVE questions

Q1.

- a. Give reasons why Quran was revealed in Arabic (7mks)
- b. Give reasons why the nature of revelation changed from short in Makkah to long in Madina (6 mks)
- c. Outline the conditions to be adhered to for translation of Quran to be valid (7mks)

Q 2

- a. Give the benefits of diacritilization of the Quran (5mks)
- b. Highlight the teachings of Suratul Hajurat (8mks)
- c. State the factors that made the compilation of the Quran easy (7mks)

Q3

- a. Differentiate between Hadith Qudsi and the Holy Quran (8mks)
- b. The prophet said “ whoever destroys a plant in Holderness which gives a shelter to passersby without a good reason, Allah will direct his head into hell fire”. In light of the above hadith give the Islamic teachings on the care of the **environment** (6mks)
- c. Give the characteristics of the golden age of hadith (period of Tabi Tabiun) (6mks)

Q4

- a. Describe the major forms of polytheism (8mks)
- b. Outline the effects of beliefs in the last day to the life of a Muslim (6mks)
- c. Give the importance on belief in Qadar and Qadha (6 mks)

Q5

- a. Differentiate between Sijdatu Shukr and Sijdatul Swalah (6mks)
- b. Describe the performance of Hajji (8mks)
- c. Explain the reasons that led to the emergence of schools of thought (madhahib) (6mks)

Q6.

- a. Outline the measures that can be put in place to improve Zakat collection in Kenya (8mks)
- b. Describe categories of legal acts in Islam (6mks)
- c. State the relevance of Islamic criminal law (6mks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

314/2

Islamic Religious Education

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) Write your name and index number in the spaces provided above.
- b) Sign and write the date of examination in the spaces provided above
- c) This paper consists of SIX questions
- d) Answer any FIVE questions in the spaces provided at the end of question six
- e) Candidates should check the question paper to ascertain that all the questions are available
- f) Candidates should answer the questions in English

For Examiner's Use Only

Question	1	2	3	4	5	6	Total score
Candidate's score							

Answer any FIVE questions

- Q1. a)** Outline the basic principles of Islamic morality (6 marks)
- b) Suggest ways that can help curb betting among the youth in the society (7 marks)
- c) Give reasons why Muslims advocate for abstinence in the prevention of HIV/AIDS (7 marks)
-
- Q2. a)** Discuss the circumstances under which a woman can seek for divorce (6 marks)
- b) Explain the significance of Wasiyyah (will) (6 marks)
- c) Discuss the causes of increased domestic violence in the society (8 marks)
-
- Q3. a)** Discuss the rationale behind the prophet's polygamous marriage (6 marks)
- b) Give the reasons why the family is considered the foundation of the Islamic society (6 mks)
- c) State the conditions necessary for contracts and agreements to be valid in Islam (8 marks)
-
- Q4. a)** Describe **FIVE** lessons Muslim youth can learn from the battle of khandaq (10 marks)
- b) Discuss the effects of Islamic culture on the Kenyan society (5 marks)
- c) Explain the reasons that led to the downfall of the Fatimid Dynasty (5 marks)
-
- Q5. a)** State the reforms introduced by Khalifa Umar bin Abdulaziz of the Umayyad Dynasty (7marks)
- b) Discuss the challenges faced by Muslims in the spreading of Islam in Kenya (7 marks)
- c) Highlight the reforms introduced by khalifah Umar binul Khatwab in the Muslim army (6marks)
-
- Q6. a)** Outline the objectives of the Muslim brotherhood (Ikhwanul Muslimin) established by Hassan Al Banna in Egypt (6 marks)
- b) Discuss the achievements of Sheikh Abdullahi Swaleh Al Farsy (7 marks)
- c) Explain the various contributions made by Muslim scholars in Science (7 marks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

448/1

Electricity

Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

- a) Write your **Name**, **Index number** and **Class** in spaces provided
- b) Candidates should have the following for this examination
Drawing instruments
Scientific calculator
- c) This paper consists of two sections: **A** and **B**.
- d) Attempt **ALL** questions in **section A** and any **FOUR** in **section B**.
- e) All dimensions are in **millimeters** unless stated other wise

For Examiner's use only

Section	Questions	Maximum Score	Candidate's Score
A	1-10	48	
B	11	13	
	12	13	
	13	13	
	14	13	
	15	13	

SECTION A (48 marks)

*Attempt **all** questions in this section in the spaces provided*

1. a) State the most immediate action to be taken when rescuing a worker found unconscious and still in contact with a live wire (1 mark)

.....
.....

- b) List two safety precautions taken while drilling through a piece of sheet metal (2 marks)

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

- c) State the role of Directorate of Industrial Training (1 mark)

.....
.....

- d) Outline four major items that must constitute a business plan (2 marks)

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

2. a) The range of a moving iron instrument of resistance 8 ohms is extended by using a shunt resistor of 0.04 ohm. If the full scale deflection current is 10mA, determine the maximum current that the modified instrument can measure (2 marks)

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

b) State two advantages and two disadvantages of the moving iron instrument over moving coil instrument (2 marks)

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.....

3. a) List two power company equipment and two consumer's equipment found at a domestic consumer's intake point. (2 marks)

.....

.....

.....

b) State one advantage and one disadvantage of fluorescent lamps over filament lamps (2 marks)

.....

.....

.....

4. State two reasons why the rotating field alternator is preferred to the rotating armature type (2 marks)

.....

.....

.....

5. a) After installing new cells in a 2 cell torch it failed to light when switched on. State two possible causes for the failure (2 marks)

.....

.....

.....

b) Three capacitors are connected as shown in **Figure 1**

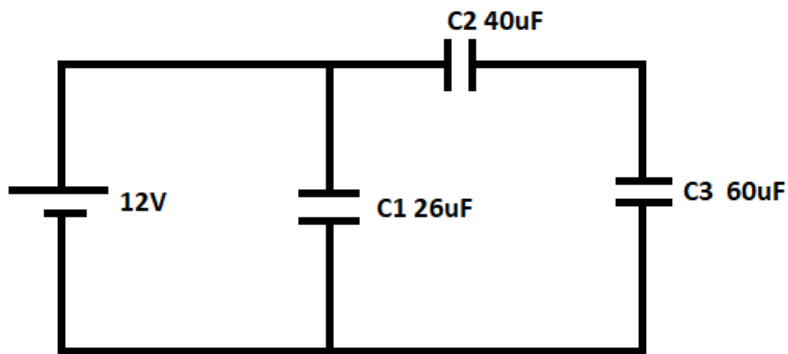


Figure 1

Calculate:

i. The equivalent capacitance

ii. Charge stored in the 26 μ F capacitor

(4 marks)

6. Sketch and label the schematic diagram of a dc shunt motor connected to a supply

(4 marks)

7. a) Name the materials used to make the following parts of ac machine in **Table 1** and in each case state one reason why the material is used (3 marks)

Table 1

Part	Material	Reason
Brushes		
Slip rings		

- b) State three factors to consider when choosing motor for a particular installation (3 marks)

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.....

8. a) List four layout tools used in metal fabrication (2 marks)

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.....

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- b) Describe three characteristics of magnetic lines of force (3 marks)

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9. a) Name two types of inductor cores (1 mark)

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.....

.....

b) State two factors that determine inductance of a coil (2 marks)

.....

.....

.....

10.a) Determine the resistance of each of the following carbon resistors if their colour code is:

i. Blue Orange Brown Silver

ii. Grey Red Yellow (2 marks)

b) Figure 2 shows a resistor network

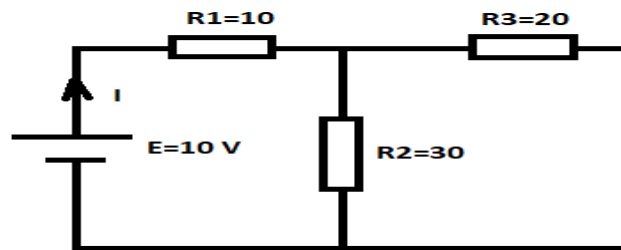


Figure 2

Find value of current I (2 marks)

.....

.....

c) Name the logic gate shown in figure 3 below

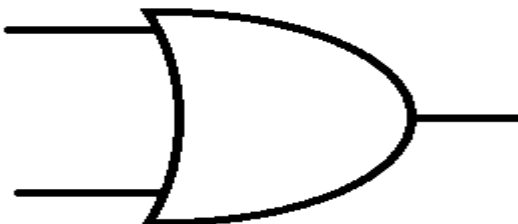


Figure 3

Name

d) Complete the truth table of the AND gate shown in **Table 2** (2 marks)

INPUT 1	INPUT 2	OUTPUT
0	0	
0	1	
1	0	
1	1	

Table 2

SECTION B (52 marks)

Answer any four questions from this section in the spaces provided

11. Figure 4 below shows a block drawn in isometric projection

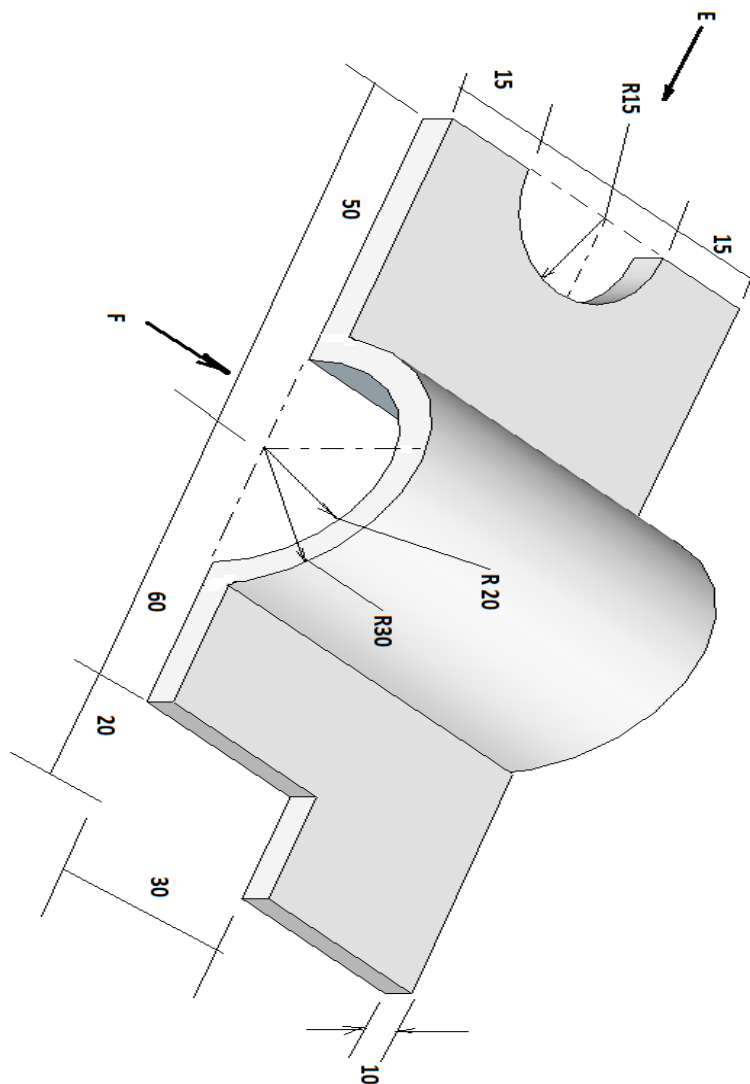


Figure 4

Using first angle orthographic projection, draw the following views full size

- a) Front elevation in the direction of arrow F
- b) End elevation in the direction of arrow E
- c) Plan

(13 marks)

DRAW HERE

12.a) State three advantages of toroidal type transformer over shell type transformer

(3 marks)

.....

.....

.....

b) i) Outline three assumptions made in order to consider a transformer as an ideal machine

(3 marks)

.....

.....

.....

.....

ii) A5000/500V, 10KVA ideal single phase transformer has 40 turns on the secondary. Calculate:

I. primary turns

II. primary full load current

III. secondary full load current

(7 marks)

13.a) State the phase relationship between current and voltage in circuits that are purely:

i. Resistive

ii. Inductive

(2 marks)

b) **Figure 5** shows an RLC circuit

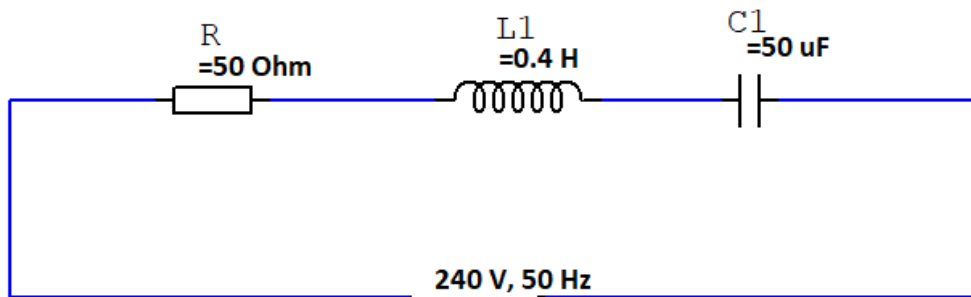


Figure 5

Calculate the:

i. Inductive reactance

ii. Capacitive reactance

iii. Circuit impedance

iv. Circuit current

v. Power dissipated in the circuit **(11 marks)**

14.a) List three metal parts that are exempted from earthing in a domestic installation **(3 marks)**

.....

.....

.....

b) Give three reasons why a verification of polarity test is carried out in a completed domestic installation **(3 marks)**

.....

.....

.....

c) Draw a line diagram of a national grid system showing typical voltages at each stage

(7 marks)

15.a) Draw a labelled circuit diagram of a PNP transistor amplifier in common base configurations

(3 marks)

b) **Table 3** below shows a bill of materials used to construct a stabilized dc supply

No	Description of material	Quantity
1	Double pole switch	1
2	Double wound transformer	1
3	Rectifier diodes	4
4	Electrolytic capacitor	1
5	Carbon resistors	1
6	Zener diode	1
7	Connecting wires	Several

Table 3

Draw a circuit diagram of the power supply

(10 marks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

448/2

Electricity

Paper 2

Time: 2 Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES

- Write your **Name**, **Class** and **Index Number** in spaces provided
- There are **five** exercises in this examination
- Candidates are allowed **30** minutes for each exercise
- Each exercise will be awarded a maximum of **20 marks**
- At each station, candidates are **not allowed** to either view the previous station's work or read instructions for the other stations
- Attempt all the **five** exercises
- All dimensions are in **millimeters** unless otherwise stated
- Candidates should answer the questions in **English**

FOR EXAMINER'S USE ONLY

Exercise	1	2	3	4	5	TOTAL
MARKS(EC)						
MARKS(MC)						
GRAND TOTAL						

EXERCISE 1

Using the components, materials and equipment provided, carry out the following tasks

- a. Connect the circuit as shown in **Figure 1**. Let the examiner check your work (7 marks)

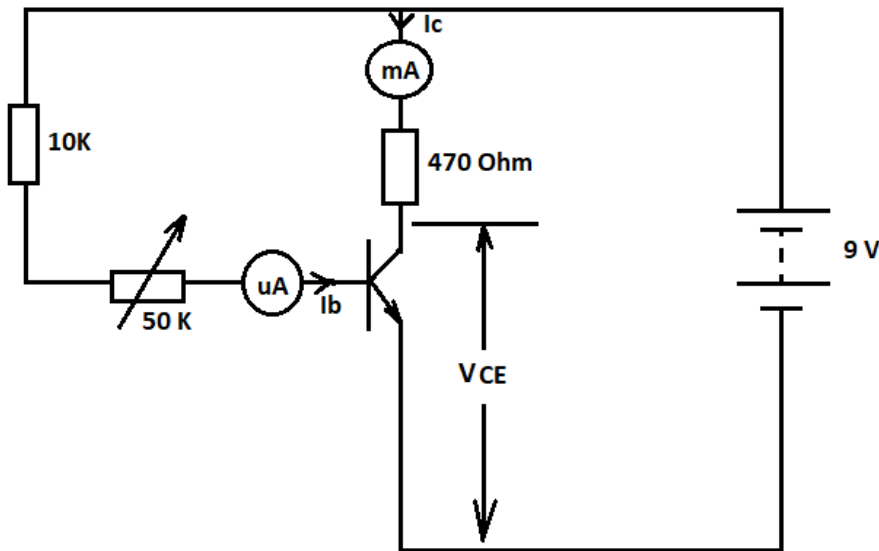


Figure 1

- b. Vary the base resistance R_B to obtain each of the base current I_B values shown in table 1. For each value of I_B , measure and record in the table the corresponding values of V_{CE} and I_C .

Table 1

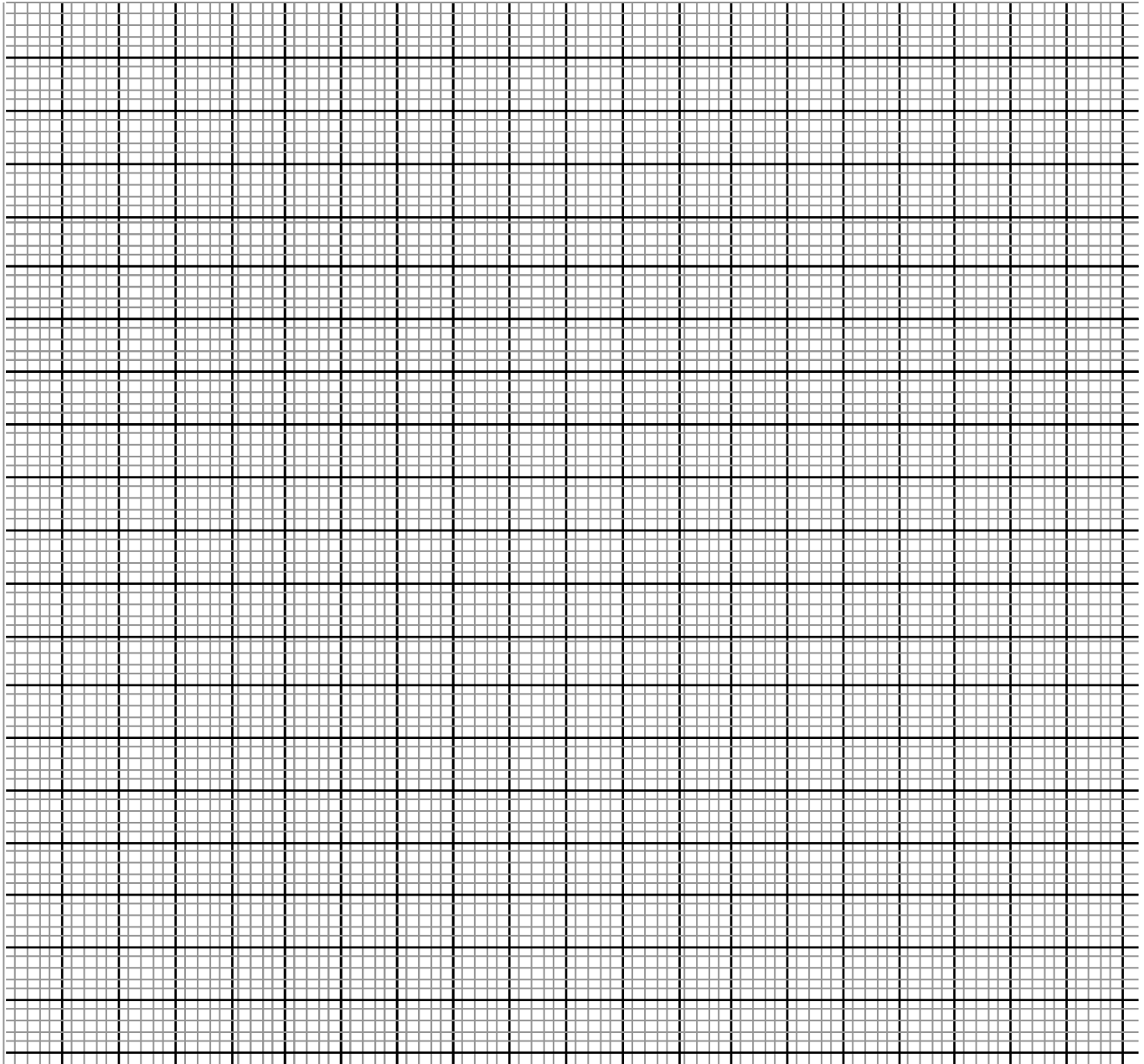
$I_B(\mu A)$	$V_{CE}(V)$	$I_C(mA)$
200		
220		
240		
260		
280		
300		

- c. Using the values in table 1:

- i. Determine the current gain β when $I_B=240\mu A$ (2 marks)

ii. Plot a graph of I_C against V_{CE}

(5 marks)



EXERCISE 2

Using the tools and equipment provided, make the model of a fluorescent lamp rain guard as shown in **Figure 2**

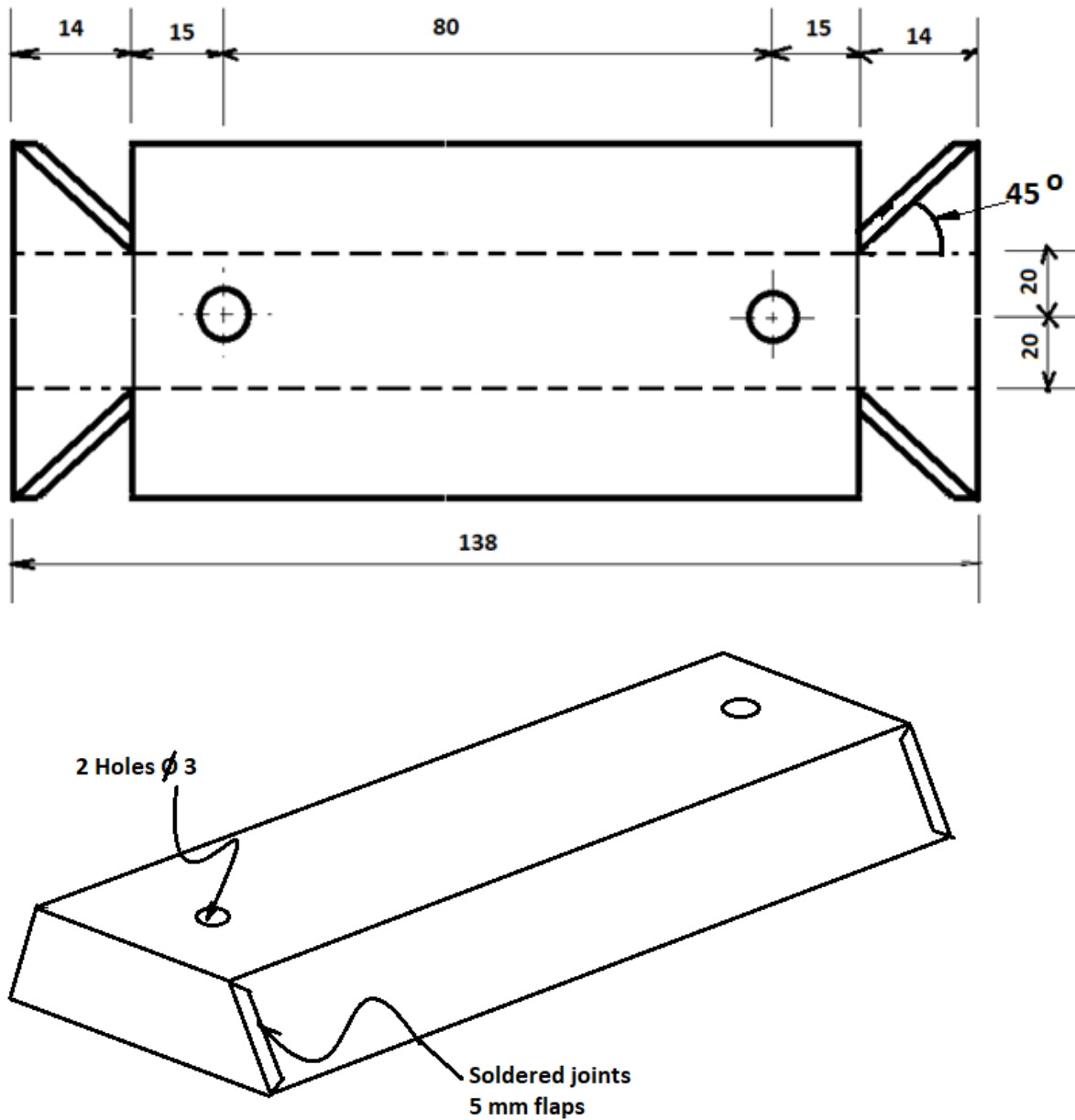


Figure 2

EXERCISE 3

Using the components, materials and equipment provided, perform the following tasks.

- a. Connect the circuit shown in **Figure 3** and let the examiner check your work (6 marks)

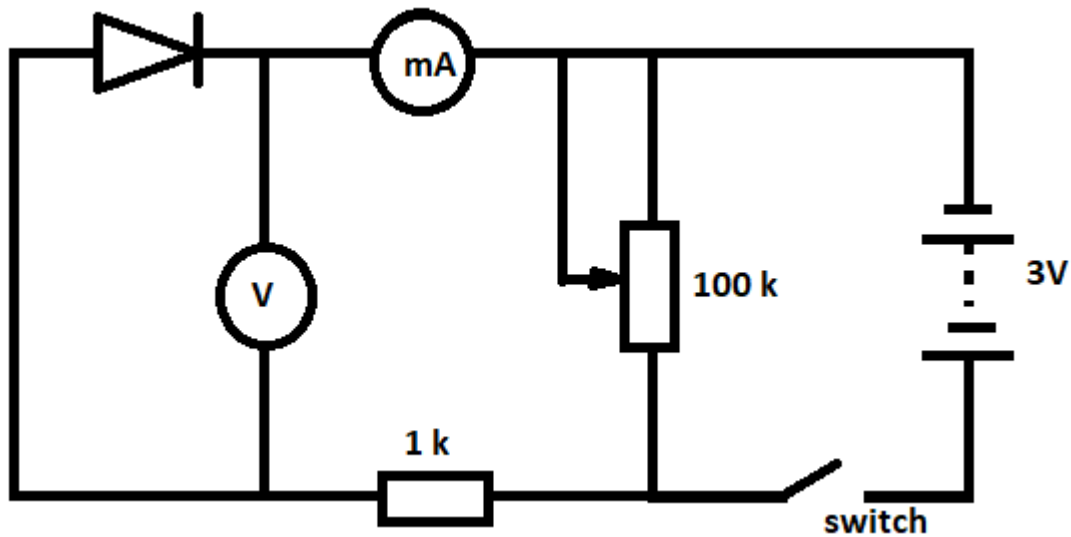


Figure 3

- b. Close the switch. Adjust the potentiometer to obtain voltage reading shown in **Table 2**. For each voltage reading obtained, measure and record the corresponding current values. (5 marks)

Table 2

Voltage (V)	0	0.5	0.7	0.9	1.3	1.7
Current (mA)						

- c. Plot a graph of current against voltage (6 marks)
- d. From the graph:
- Determine the resistance when the voltage is 1.3V
 - Give a reason for the shape of the graph (3 marks)

EXERCISE 4

Using the pre-fabricated circuit provided in **Figure 4**, perform the following tasks:

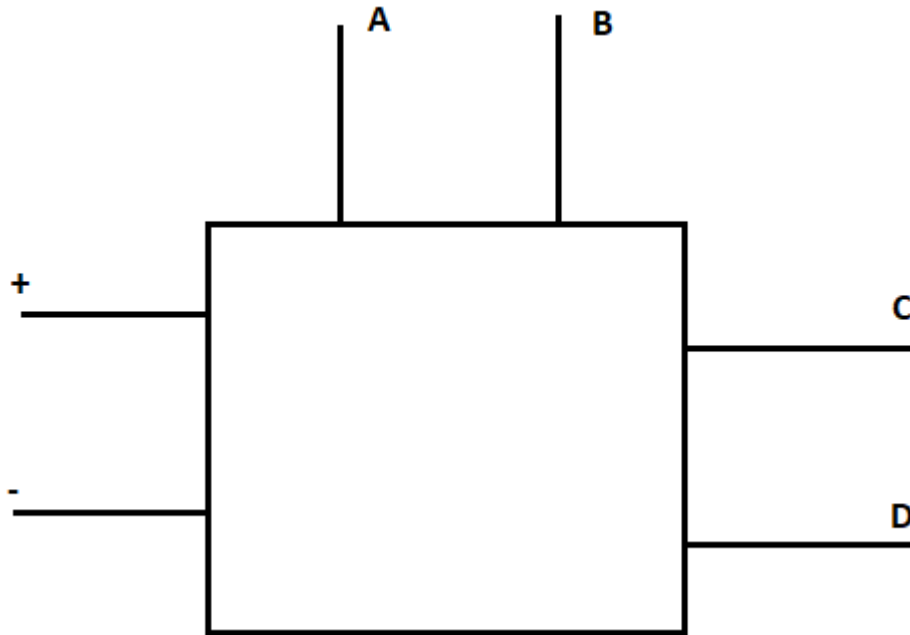


Figure 4

- a. With the switch open:
 - i. Connect Voltmeter between A and B (Observe polarity)
 - ii. Connect Voltmeter between C and D (Observe polarity) **(2 marks)**

(Let the examiner check your work)

- b. Close the switch. Adjust input voltage and complete the table below **(10 marks)**

Table 3

Input Voltage V_{in} (V)	0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Output voltage V_z (V)											

- c. Plot the graph of V_z against V_{in} **(5 marks)**

EXERCISE 5

Using PVC sheathed wiring, complete the installation shown in **Figure 5**, such that the bell is operated from either A or B (20 marks)

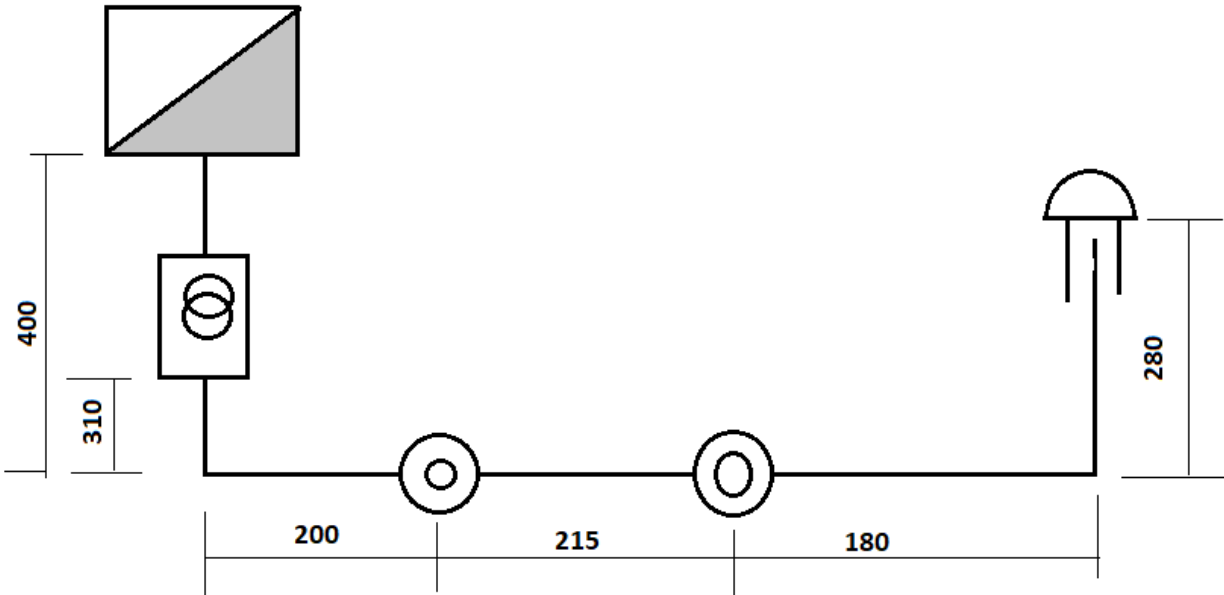


Figure 5

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

447/1

Power Mechanics

Paper 1

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

INSTRUCTIONS TO CANDIDATES

a. *Candidates should have the following for their examination.*

Drawing Instruments and drawing paper size A4.

b. *Section A- Answer ALL questions(40marks)*

c. *Section B- Answer Question 11 and any other three questions. (60marks)*

SECTION A (40MARKS)

1 a) List three major components of the diesel fuel system **(3marks)**

.....

.....

.....

b) Arrange the following personnel training levels in the correct order starting with the highest,
(2marks)

Technician, Craftsman, Technologist, Artisan

.....

.....

2 i) Differentiate between live and dead axle. **(2marks)**

.....

.....

.....

ii) Explain the following terms as used in the suspension system. **(2marks)**

a) sprung weight

.....

.....

b) un sprung weight

.....

.....

3 i) State two reasons for alloying metals. **(2marks)**

.....

.....

.....

ii) For each of the following components state two measurements which should be taken during inspection. **(2marks)**

a) Crankshaft

.....
.....

b) Piston rings

.....
.....

4 State one use of each of the following tools

(2marks)

a) Piston ring compressor

.....
.....

b) Micrometers

.....
.....

c) Stethoscope

.....
.....

d) Compression gauge

.....
.....

b) Differentiate between friction and antifriction bearings. Give one example of each type.(4mks)

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

5 a) State one cause of each the following excessive tire tread wear patterns . (1mark)

i) feathered edge

.....

ii) shoulder wear

.....

e) State four physical checks that need to be carried on a car battery. (2marks)

.....

.....

.....

.....

6 a) State two possible causes of a clutch slip. (1mark)

.....

.....

b) Give two reasons why bearings are necessary. (2marks)

.....

.....

.....

c) State two requirements for combustion in a diesel engine (2marks)

.....

.....

7 a) State two possible causes why a petrol engine would emit white or light blue smoke at its exhaust pipe(2marks)

.....

.....

.....

b) Identify two advantages of a pressurized water cooling system over thermo-siphon cooling system (2marks)

.....

.....

8 a) List two advantages of a two –stroke engine over a four –stroke petrol engine (2marks)

.....

.....

b) State two types of fire extinguishers used to put out a burning carburetor (1mark)

.....

.....

9a) Explain each of the following terms as used in power mechanics (3marks)

i) Detonation

.....

.....

ii pre- ignition

.....

.....

iii) Atomization

.....

.....

10 a) State two functions of each of the following vehicle systems . (3marks)

i) suspension system

.....

.....

ii) steering system

.....

.....

iii) braking system

.....

.....

.....

SECTION B: (60 MARKS)

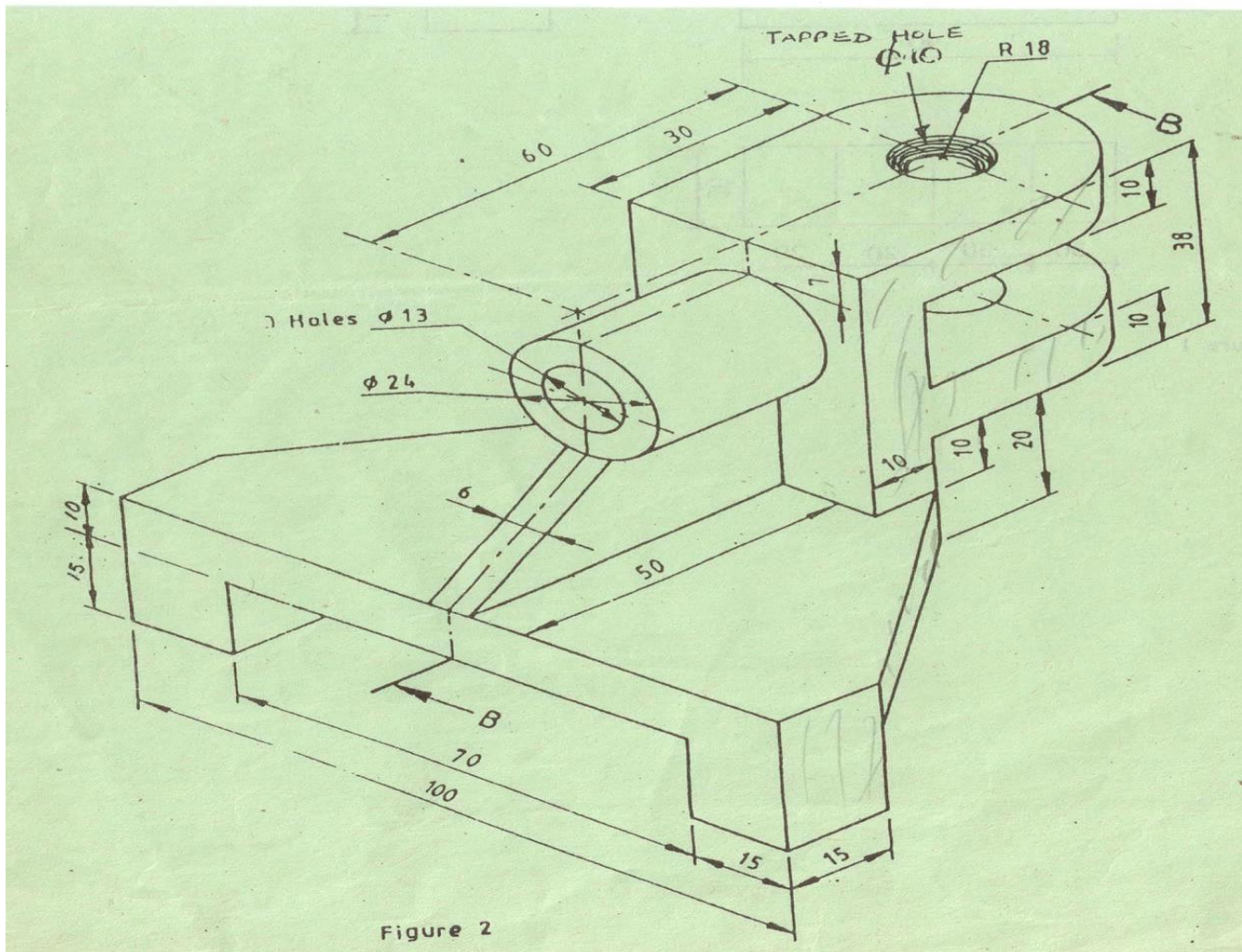
Answer question **11** and any other three questions from this section.

Candidates are advised to spend(not **more than 25 minutes**) in question **11**.

11. The figure below shows an isometric drawing of a machine component. Draw FULL SIZE, in first projection the following views in the drawing paper provided. 15 marks)

- a) Sectional front elevation B-B .
- b) The plan.
- c) Include 3 important dimensions.

Do not show hidden details.



12i) State the functions of the following in a vehicle (2 marks)

a) Final drive unit

b) Clutch

ii) List **three advantages of wankel rotary engine over the conventional reciprocating piston type.**

(3marks)

iii) Identify four differences between full-flow and By-pass filters (2marks)

iv) Using sketches explain the operation of warning light pressure gauge.

13) Draw and label four main parts of a ball bearing. (4 marks)

Draw atypical valve train diagram and label atleast six parts . (6 marks)

c) Using a well labeled diagram explain the operation of mechanical fuel pump.(5 marks)

14 a) Draw a well-based rim and label the parts .(3marks)

a) Outline the procedure to be followed when carrying out brake bleeding.(4marks)

c) State the cause of the following types of wear on a tire (3 marks)

i) Wear at the centre of the tread

ii) Wear on both sides of the tread

iii) Wear on one side of the tread

d) Using sketches distinguish between king pin inclination and castor **angle (3 marks)**

e) List down **four advantages of the independent front suspension over the solid I –beam axle.(2 marks)**

15 a) State the function of the following in a cooling system.(3 marks)

i) Thermostat

ii) Pressure valve

iii) Vacuum valve

b) List four types of manual steering boxes sketch and explain the operation of one of them. (12 marks)

KCSE 2023 MOCK EXAMINATIONS

Kenya Certificate of Secondary Education

JOINT SERIES 1

447/2

Power Mechanics

Paper 2

Time: 2½ Hours

NAME.....

SCHOOL..... SIGN.....

INDEX NO..... ADM NO.....

Kenya Certificate of Secondary Education.

447/1

POWER MECHANICS

PAPER 2

TIME: 2½ HOURS

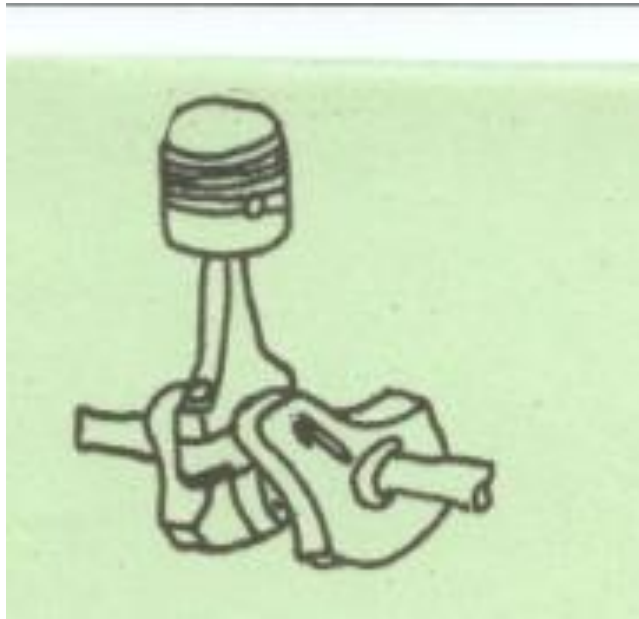
INSTRUCTIONS TO CANDIDATES

- 1** *There are ten stations in this examination.*
- 2** *Candidates are allowed 15 minutes at each station .*
- 3** *At each station ,candidates are not allowed to either review the previous station work or read instructions for other stations.*
- 4** *Write your name and index number in the space provided at the top of this page .*
- 5** *Attempt all the exercise in each station.*
- 6** *All dimensions in millimeters.*

STATION 1

Instructions:

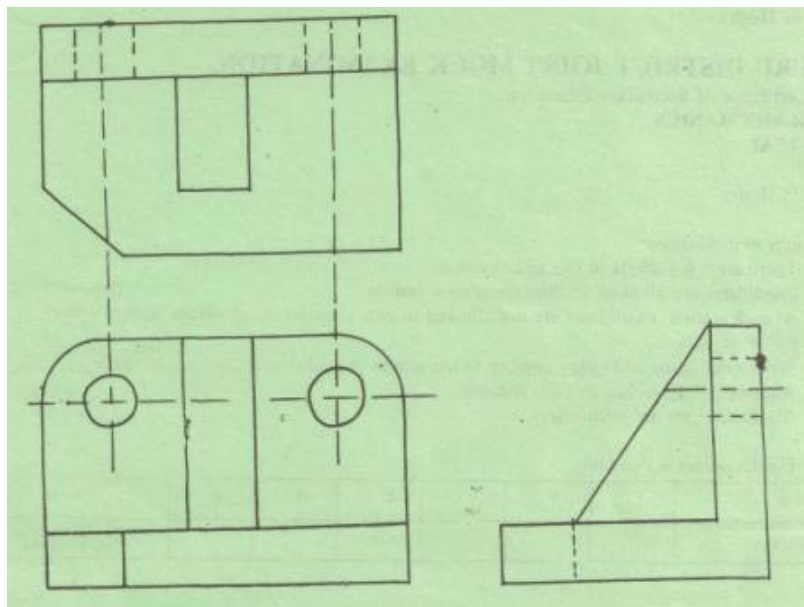
The figure below shows a piston assembly of a single cylinder engine. In the space below, sketch an exploded view of the assembly and label all the parts. **(10 marks)**



STATION 2

Instructions

The figure below shows a shaped block drawn in third angle orthographic projection. In the space provided below, draw the oblique view of the block in good proportion.(10 marks)



STATION 3

Instructions:

From the manual provided, look for and record all the information required to complete the following table for models HONDA G35 (APPENDIX A) and CLINTON ENGINE (VS 2100)(10 marks)

HONDA G35 (Standard)

- 1.Exhaust valve stem O/D
2. Valve spring free length
3. spark plug gap.
4. Piston O/D at skirt
5. Cam height

CLINTON VS 2100

1. Carburetor float settingmax
2. Ring end gap in cylindermax
3. Spark plug gapmin
4. Piston O.D. at skirtmin
5. Point setting

STATION 4

Instructions

Make a good proportion sketch of a two-leading shoe design of a drum brake on the space provided below and also label it .

STATION 5

Instructions:

Identify the tools labeled A to J and state the use of each. (10 marks)

TOOL	NAME	USE
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		

STATION 6

Instructions

Using the conventional ignition system components and the wires provided. Connect a complete ignition circuit as found in a vehicle. **(10 marks)**

Let the examiner inspect your work and disconnect the circuit.

STATION 7

Instructions

The single cylinder engine provided has a clearance volume of 48cm³.

i) Measure the bore.....mm

ii) Measure the stroke.....mm

Calculate iii) the cubic capacity of the engine

iv) The compression ratio of the engine

v) The amount of fuel the engine consumes in 10 minutes if its air fuel ratio is 15:1 and the engine is running at 1200 has a volumetric R.P.M and efficiency of 80%.

STATION 8

Instructions: Identify the components numbered 1 to 10 and complete the table given below. (10 marks)

NO.	Name of component	one use
1		
2		
3		
4		
5		

- 6
- 7
- 8
- 9
- 10

STATION 9

Instructions

The engine provided has faults in its basic system indicated below. Identify the faults and state the effect of each on the performance of the engine. (10 marks)

SYSTEM	FAULTS	EFFECTS
--------	--------	---------

a) Fuel

b) Ignition

c) Lubrication

d) Cooling

e) Exhaust

STATION 10

Instructions

On the gas welding equipment provided: a) identify the parts labelled A to E

A

B

C

D

E

b) Light the equipment and set the torch to a carburizing flame.

(NOTE: The regulator pressures are already set).

Let the examiner check your work. **(10 marks)**

CALL/TEXT/WHATSAPP

0746-222-000

0742-999-000

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