FORM 3 MID-TERM 2 EXAMS

ALL SUBJECTS

COMPREHENSIVE EXAMINATION PAPERS

SERIES 2 COMPREHENSIVE Compilation of Standard set of Mid-Term 2 Examinations for the Current Class. Each Subject is made up of one single Comprehensive paper.

SUBJECTS TESTED;

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

SERIES 2

For Marking Schemes / Answers

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

MWALIMU CONSULTANCY

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

BIOLOGY

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS:

*Answer **All** question in the spaces provided.*

1. Distinguish between a cell and an organelle **(2mk).**

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2. State the name given to the study of;

i) The cell **(1mk)**

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ii) Microorganisms **(1mk)**

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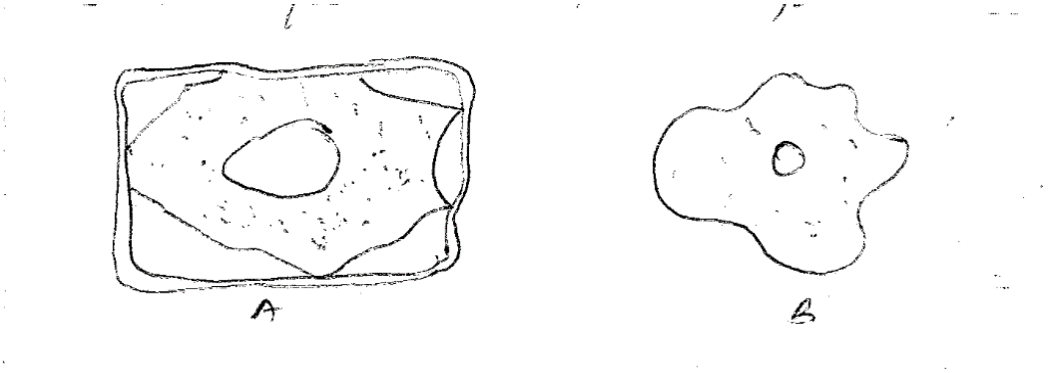
3. (a) State two characteristics of living organisms that are specific to plants. **(2mks)**

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4. The diagram shows two types of cells placed in a certain solution. Study them and answer questions that follow



a. Name the physiological process responsible for the observed results. **(1mk)**

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b. Give the correct biological term used to describe cells A & B. **(2mks)**

A –

B –

5. Give a reason for each of the following biological phenomena

a) when placed in fresh water *Entamoeba histolytica* does not burst **(2mks)**

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b) A mature plant cell does not lose its shape after losing water **(1mk)**

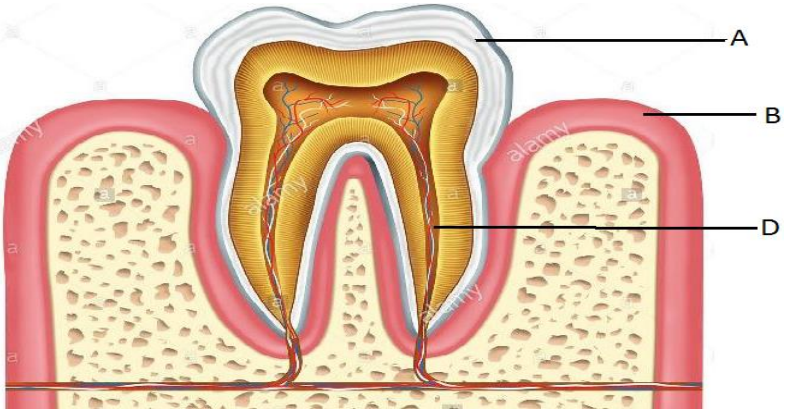
6. Name the polysaccharide that constitute the

i.Cell wall of plant cells **(1mk)**

ii. Cell wall of fungi cells. **(1mk)**

iii. Xylem vessels and tracheal **(1mk)**

7. The figure below is a diagram of a vertical section of a mammalian tooth.



(i) Name the part labelled A and B. **(2mks)**

A

B

(ii) State *two* ways in which structure D is adapted to its functions. **(2mks)**

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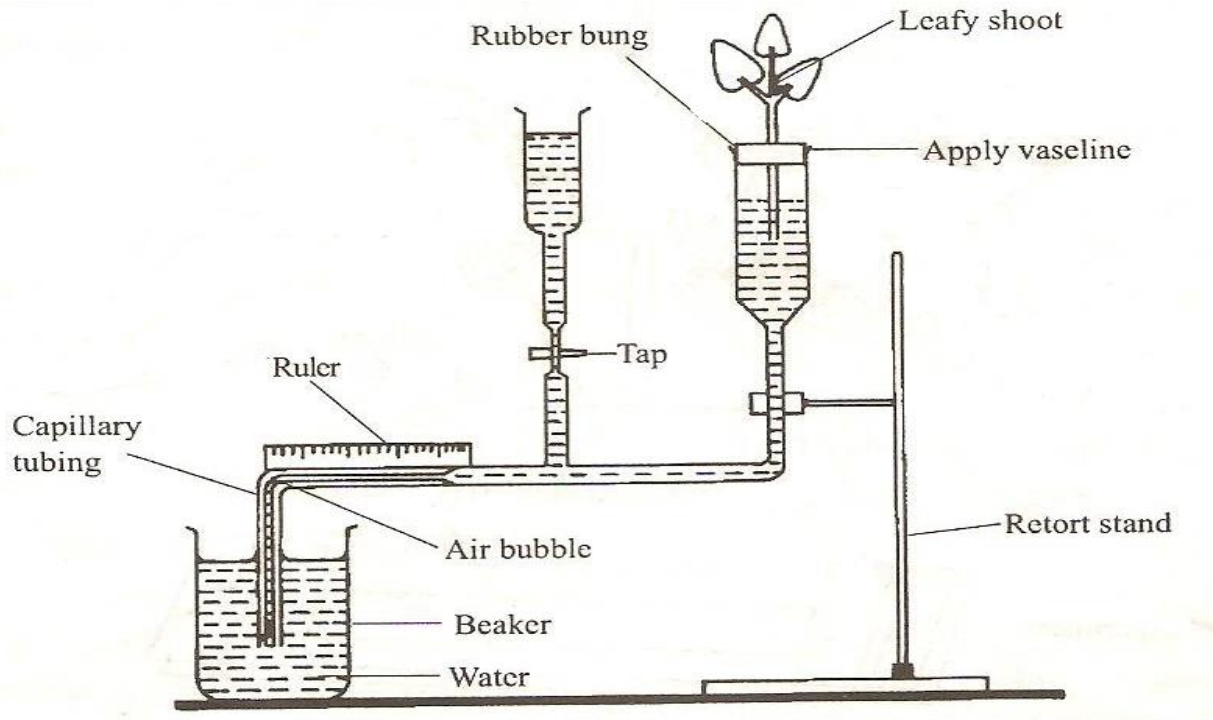
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(iii) List *two* ways of preventing gingivitis. **(2mks)**

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8. Below is a set up that was used to investigate a certain process in plants



a) State what the above apparatus can be used to measure. **(1mk)**

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i) Give <u>two</u> precautions that should be taken when setting up the experiment **[2mrks]**

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(ii) State a reason for each precautions stated in b (i) above **[2mrks]**

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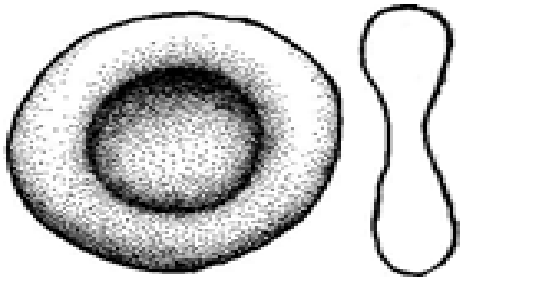
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(c) List <u>two</u> structural factors that affect the process under investigation **[2mrks]**

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9. Shown below are diagrams of the same mammalian blood cell



Surface view side view

a) State two morphological features of cell represented in the diagram above **(2mks)**

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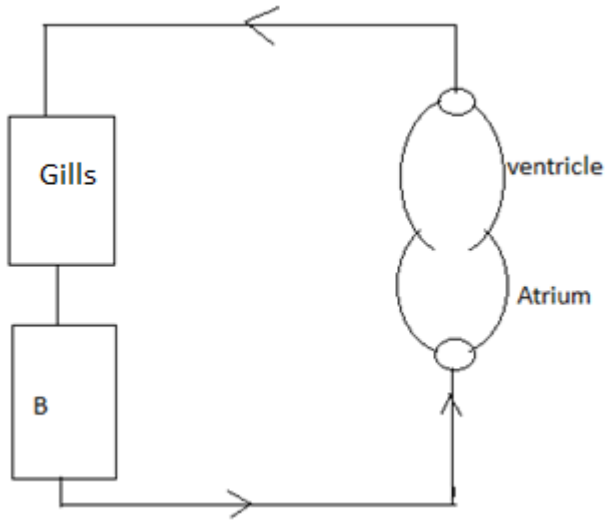
b) How is the feature stated above advantageous to the cell.. **(2mks)**

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



a. i) Identify the type of circulatory system shown above **(1mk)**

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

ii) Give a disadvantage of this type of circulation **(2mk)**

11. An individual is blood group A positive **(2mks)**

a) Name the antigens in the individual's blood

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b) Give the reason why the individual cannot receive blood from blood group A donor **(2mks)**

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12. The equation below shows an oxidation reaction of food substances.

$$C_{51}H_{98}O_6 + 145O_2 \text{ ------- } 102\ CO_2 + 98\ H_2O + \text{energy}$$

a) What do you understand by the term respiratory quotient? **(1mk)**

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b) Determine respiratory quotient of the oxidation of food substance. **(2mks)**

c) Identify the food substances. **(1mk)**

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d) In a cell where does aerobic respiration occur? **(2mks).**

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13. Explain the following

a) The stomach lining is made of protein but is not digested by protein-digesting **enzymes** **(2mks)**

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b) Digestion of starch does not continue in the stomach. **(2mks)**

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c) One easily suffers nose bleeding when climbing mountain. **(2mks)**

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d) A camel can stay for 60 days without drinking water. **(1mk)**

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14. Name **three** sites where gaseous exchange takes place in plants. **3mks)**

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15. Describe the changes that occur to the rib cage and the diaphragm during inspiration. **(4mks)**

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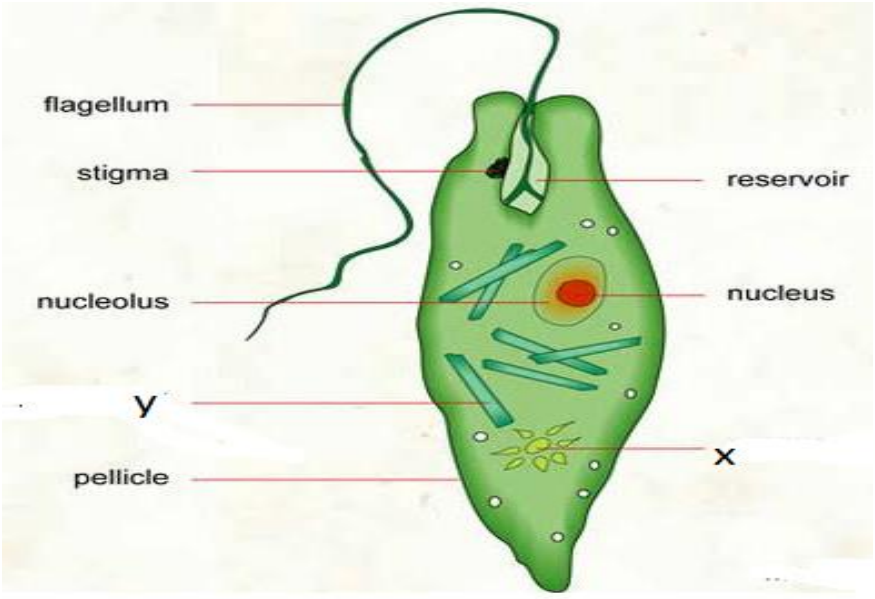
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16. Explain the hormonal differences between these two homeostatic disorders, diabetes Mellitus and diabetes insipidus **(4mks)**

Diabetes Mellitus.	**Diabetes insipidus.**

17. Below is a diagram of *Euglena gacilis*. use it to answer questions that follow.



(a) Classify the organism into the following taxa. **(2mks)**

(i) Kingdom

(ii) Genus

(b) Name the structure labeled X. **(1mark)**

(c) How is the structure Y adapted to its function? **(1mark)**

18. State 5 general characteristics of class Aves **(5mks)**

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19. Give <u>three</u> ways in which atmospheric nitrogen is fixed into **nitrates** **(3 marks)**

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20. Name the polysaccharide that constitute the

i. Cell wall of plant cells **(1mk)**

ii. Cell wall of fungi cells. **(1mk)**

iii. Xylem vessels and tracheal **(1mk)**

21. A wild beast in maasai mara national park was found to be infested with a lot of ticks. State the trophic level occupied by the following organisms.

(a)(i) Wild beast. **(1mark)**

(ii) Ticks. **(1mark)**

(b) Sketch a pyramid of numbers to represent the above feeding retionship. **(1mk)**

22. A student observed feeding relationship while on a tour in a coastal Island.

Eagles feed on small fish, Small fish feed on sea grass, Insect larvae and molluscs feed on sea grass, Insect larvae fed on by small fish, while crabs feed on insect larvae and molluscs.

a) From the above information, construct a food web. **(3mks)**

b) In which trophic level is small fish found. **(1mk)**

c) Extract a food chain where the Eagle is a tertiary consumer. **(1mk)**

d) Suppose all the crabs were poisoned, what would be the immediate effect in the ecosystem? Give a reason. **(1mk)**

(e) Give a reason why pyramid of biomass is a better representation of energy flow in an ecosystem than pyramid of numbers. **(1mk)**

23. (a) Define the term poikilotherm. **(1mk)**

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(b) Describe the role of mammalian skin in thermoregulation. **(19mks)**

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FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

CHEMISTRY

TIME: 2 HOURS

NAME…… ADM NO; ……..

CLASS…… DATE……..

Answer All Questions in The Spaces Provided

1. (a) State Boyle's law **(1mk)**

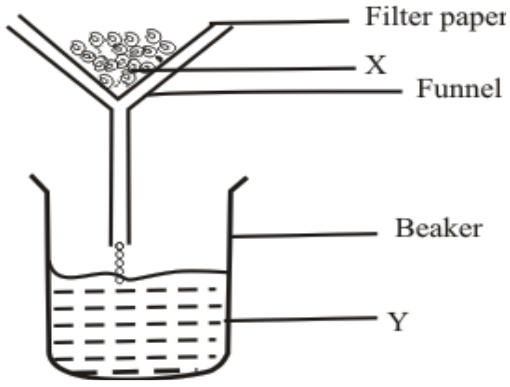
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(b) A gas occupies 500cm^3 at 27^{o}C and 100,000 Pa. What will be its volume at 0^{o}C and 101,325 Pa? **(2mks)**

2.When Magnesium metal is burnt in air, it reacts with both oxygen and nitrogen gases giving a white solid. Write two equations for the reactions that take place. **(2 marks)**

3.Filtration is carried out in the apparatus shown



a) Name **X** **($\frac{1}{2}$ mark)**

b) State **one** property that makes it possible to separate mixtures using filtration. **($\frac{1}{2}$ mark)**

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4.(a) State Graham's law of diffusion **(1 mark)**

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(b) A volume of 120 cm^3 of nitrogen gas diffused through a membrane in 40 seconds, how long will 240cm^3 of carbon (IV) oxide defuse through the same membrane (N=14.0, C=12.0, O=16.0) **(3 marks)**

5. Study the table below and answer the questions that follow

Substance	M.pt ^oC	B.pt ^oC	Electrical conductivity in solid state	Electrical conductivity in molten state
J	365	463	Nil	Nil
K	1323	2773	Good	Good
L	1046	1680	Nil	Good
M	2156	2776	Nil	Nil

Place J, K, L and M in the appropriate categories from the following:

i. Metallic solid **(1 mark)**

ii. Covalent solid **(1 mark)**

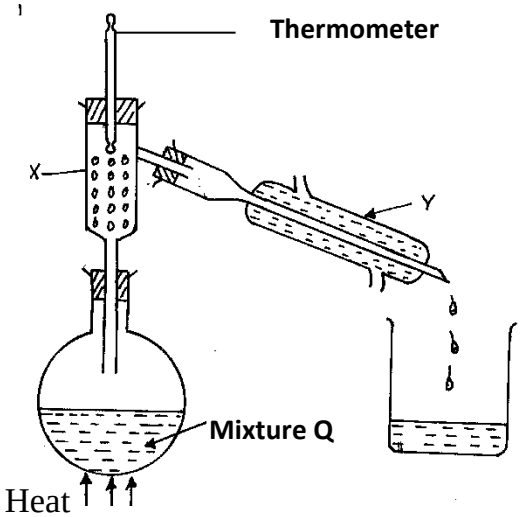
iii. Ionic solid **(1 mark)**

6. A certain element A whose atomic number is 14 has 3 isotopes. The table below shows the mass number and relative abundance of each isotope.

Isotopic mass	% abundance
28.0	92.2
29.0	4.7
30.0	3.1

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

7. Study the diagram below and answer the questions that follow. The diagram shows the method of separating components of mixture Q.



a) Name apparatus X and Y. **(1mk)**

X:

Y:

b) What is the purpose of apparatus X? **(1mk)**

c) Show the direction of flow of cold water used for cooling the vapor formed. **(1mk)**

8. In an experiment to determine the percentage of impurity in Sodium carbonate, 1.8g of impure Sodium carbonate was reacted with excess 2M Hydrochloric acid. 340cm^3 of dry Carbon (IV) oxide gas was collected during the experiment at room temperature and pressure.

(Na=23, 0=16, C=12; Molar gas volume at r.t.p=24dm^3)

a) Why was excess 2M Hydrochloric acid used in the experiment**?** **(1mk)**

b) Write an equation for the reaction that produced Carbon (IV) oxide **(1mk)**

c) Calculate

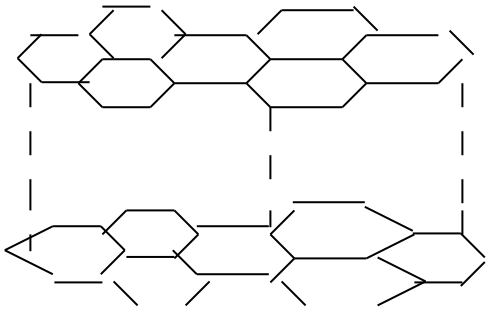
i. The number of moles of Carbon (IV) oxide produced **(2mks)**

ii. The number of moles of Sodium carbonate that reacted with the acid **(2mks)**

iii. The mass of Sodium carbonate that reacted with the **acid** **(2mks)**

iv. The percentage of impurities in the sample of Sodium carbonate **(2mks)**

9. The diagram below shows the structure of one of the allotropes of carbon



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

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

10. 20.0cm^3 of a solution containing 4g per litre of sodium hydroxide was neutralized by 8.0cm^3 of dilute sulphuric (VI) acid. Calculate the concentration of sulphuric (VI) acid in moles per litre. (Na=23, O=16, H=1, S=32) **(3mks)**

11. The P^H values of some solutions are given below

P^H	14.0	1.0	8.0	6.5	7.0
Solution	M	L	N	P	Z

(a) Identify the solution with the lowest concentration of hydrogen ion. Give reason for your answer **(1mk)**

(b) Which solution would be used as an anti-acid for treating stomach upset. Give for your answer **(1mk)**

12. Zinc metal and hydrochloric acid reacts according to the following equation

$Zn_{(s)} + 2HCl_{(aq)} \longrightarrow ZnCl_{2\,(aq)} + H_{2\,(g)}$

1.96g of Zinc metal were reacted with 100cm^3 of 0.2M hydrochloric acid

a) Determine the reagent that was in excess **(2mks)**

Zn=65.2; Molar gas volume at s.t.p 22.4 liters

(b) Calculate the total volume of hydrogen gas that was liberated at s.t.p **(1mk)**

13. 0.9g of potassium chloride and potassium carbonate mixture completely reacted with 25cm^3 of 0.2M hydrochloric acid

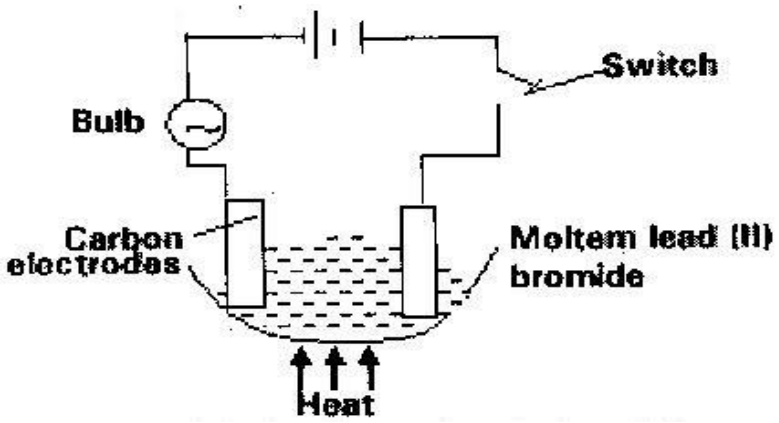
(i) Write an equation of the reaction which takes place **(1mk)**

(ii) Determine the number of moles of the acid used **(1mk)**

(iii) Calculate the mass of potassium chloride in the mixture (K=39.0; C=12.0; O=16.0) **(1mks)**

14.A compound of carbon, hydrogen and oxygen contains 57.15% carbon, 4.76% hydrogen and the rest oxygen. If its relative molecular mass is 126, find its molecular formula. **(C = 12, H = 1, O = 16)** **(3mks)**

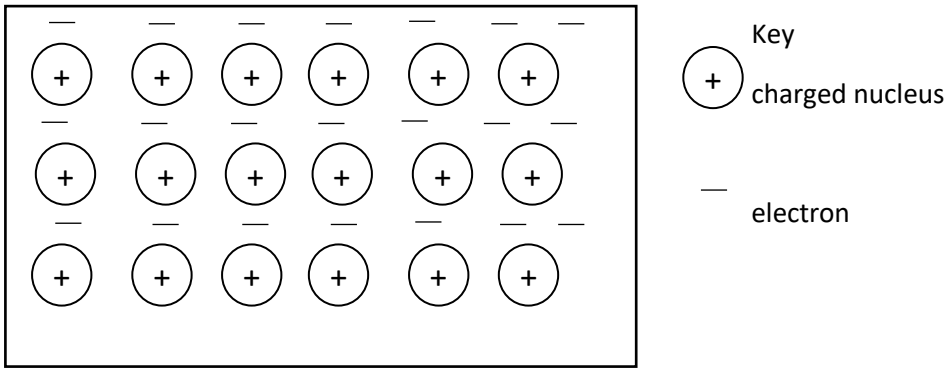
15. Study the set up below and answer the questions that flows



State all the observations that would be made when the circuit is **completed** **(3mks)**

16. Describe how solid samples of salts can be obtained from a mixture of lead (II) chloride, sodium chloride and ammonium chloride. **(3mks)**

17.The diagram below is a section of a model of the structure of element Q



a) State the type of bonding that exist in **Q** **(1mk)**

b) In which group of the periodic table does element Q belong. Give a reason **(2mks)**

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

Element	Atomic number	Melting point °C
A	11	97.8
B	13	660
C	14	1410
D	17	-101
E	19	63.7

a) Write the electronic arrangement for the ions formed by element B and D**.** **(1mks)**

b) Select an element which is:

i. A non-conductor of electricity **(1mk)**

ii. The most reactive non-metal **(1mk)**

c) To which period of the periodic table does element E belong? **(1mk)**

d) Element E losses its outermost electron more readily than A. Explain**.** **(1mk)**

19. 0.12g of a metal X reacted with dilute hydrochloric acid to form X^{2+} ions with liberation of 240cm3 of hydrogen at r.t.p. Determine the RAM of X**.** **(3 marks**)

(Molar gas volume at r.t.p = $24dm^3$)

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

Oxide	J_2O	TO	X_2O_3	WO_2	Y_2O_5	ZO_2
PH of oxide in water	13	9	X	X	1	4
Melting point (°C)	1193	3075	2045	1728	563	-91

a) Identify the oxide with

i. Giant ionic structure. **(½ mark)**

ii. Giant atomic structure. **(½ mark)**

iii. Simple molecular structure. **(½ mark)**

iv. Write the formula of the chloride of W. **(½ mark)**

21. When a hydrocarbon was completely burnt in oxygen, 4.2g of carbon (IV) oxide and 1.71g of water were formed. Determine the empirical formula of the hydrocarbon. **(3 Marks)**

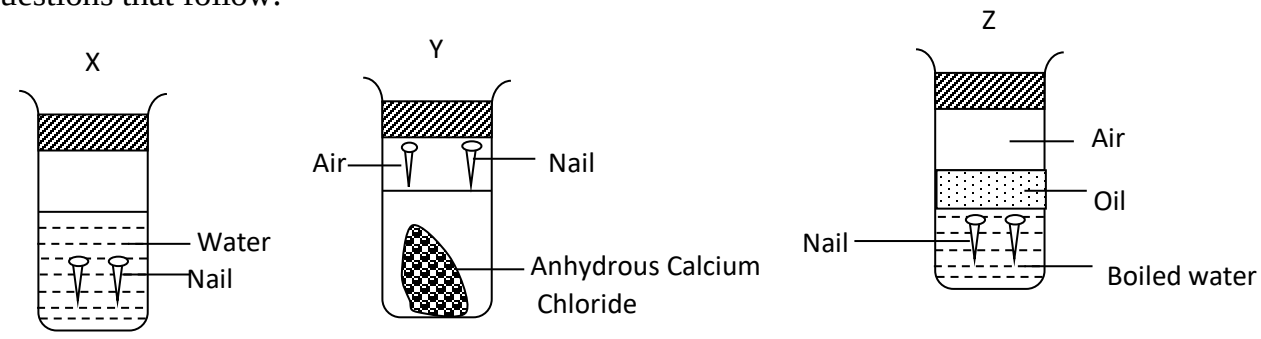
(H = 1.0, C = 12.0, O = 16.0)

22. State and explain the change in mass that occurs when the following substances are separately heated in open crucibles. **(3 Marks)**

(a) Copper metal

(b) Copper (II) Nitrate

23. An investigation was carried out using the set-up shown below. Study it and answer the questions that follow.



(i) State and explain what will happen in test-tubes X, Y, Z after seven days**?** **(3 Marks)**

X –

Y –

Z –

24. Describe how the following reagents can be used to prepare Lead Sulphate: solid potassium sulphate, solid lead carbonate, dilute nitric (V) acid and distilled water. **(3mks)**

25. On strong heating of potassium nitrate it liberates oxygen gas. In the space provided below, draw a labeled diagram of a set up that could be used for heating potassium nitrate and collecting the oxygen gas liberated. **(3mks)**

26. When chlorine gas dissolves in water it forms chlorine water which appears yellow. Identify the components of chlorine water. **(1mk)**

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

PHYSICS

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES:

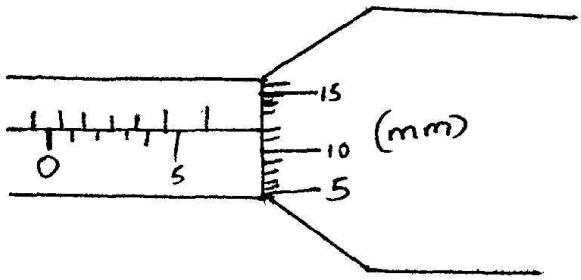
- *Write **your name, admission number**, **date** of examination in the spaces provided above.*
- *This paper consists of sections: **A** and **B.***
- *Answer **all** the questions in section **A** and **B** in the spaces provided.*
- *All working **must** be clearly shown in the spaces provided.*
- *Mathematical tables and electronic calculators may be used.*

For Examiner's Use Only

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 18	40	
B	19	13	
	20	13	
	21	12	
	22	11	
	23	11	
TOTAL SCORE		**100**	

SECTION A (40 MARKS)

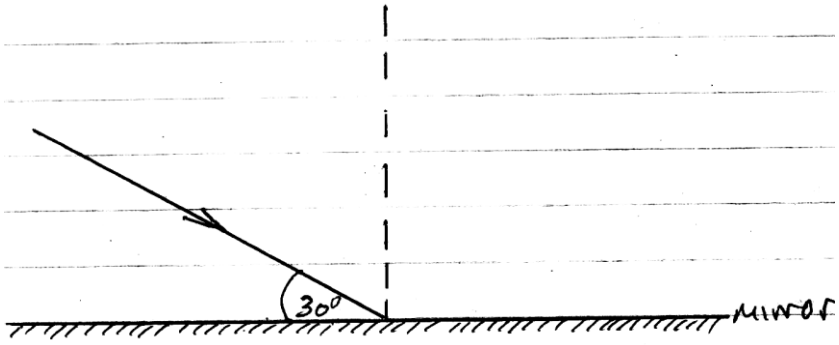
1. The diagram below shows a portion of a micrometer screw gauge used to measure the diameter of a metal pipe. The reading on the gauge when the jaws were fully closed without the pipe was 0.012cm.



What is the diameter of the pipe**?(½ mks)**

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2. The figure below shows a ray of light incident on a plane mirror.



a) What is the angle of reflection? **(2mks)**

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b) The mirror is rotated clockwise through an angle of 10^{o}.Through what angle does the reflected ray make with the horizontal? **(2mks)**

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3. A device allows current of 10A to pass through a point in a circuit for 25 seconds. Calculate the total charge passing through the point within the period. **(2 mks)**

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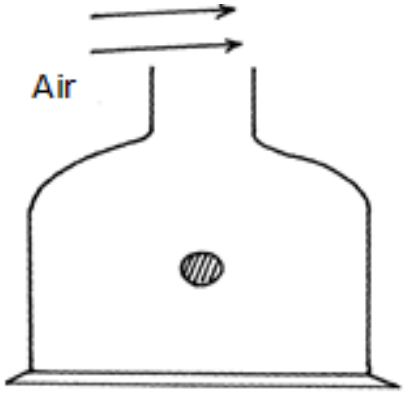
4. Why is attraction not a sure test when establishing the polarity of a magnet? **(2 mks)**

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5. The figure below shows a light body floating in a container



State and explain the observation when a stream of air is blown over the mouth of the container at high speed as shown **(2mks)**

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6. Xcm^3 of substance A which has density of 800kg/m^3 is mixed with 100cm^3 of water with a density of 1000kg/m^3. The density of the mixture is 960kg/m^3. Determine;

I) total volume **(1mk)**

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II) total mass **(1mk)**

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III) the value of X **(2mks)**

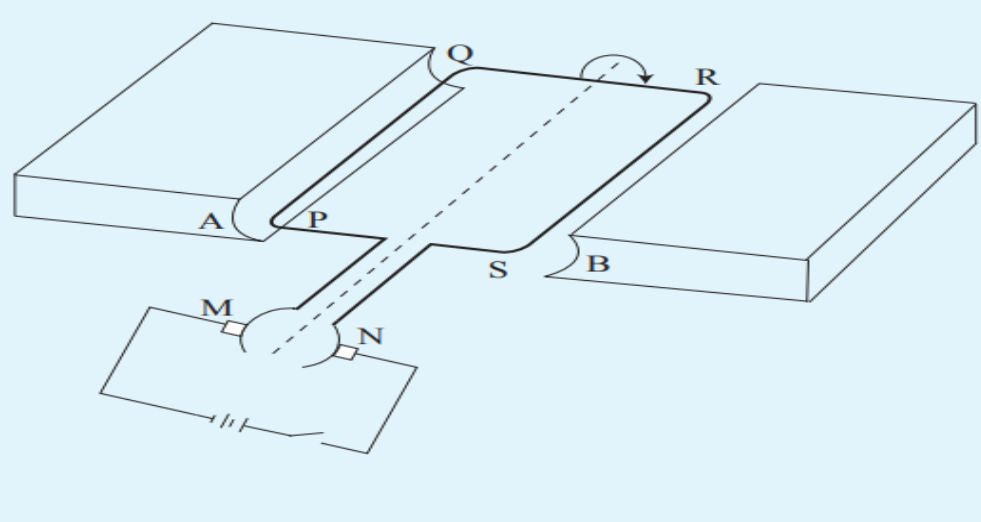
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7. The figure below shows a coil PQRS lying between two unlike magnetic pole of pieces A and B of an electric motor.



(a) Given that PQRS rotates in a clockwise direction when the switch is closed, state the polarity of

A. **(1 mk)**

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b) State two ways of increasing the speed of rotation of the coil **(2 mks)**

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8. (a) What is an echo**?** **(1 mk)**

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(b) State the effect of temperature on the speed of sound**.** **(1 mk)**

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9. A spoon partly submerged in a glass of water appears bent. Explain**.** **(1 mk)**

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10. Distinguish between transverse and longitudinal waves **(2 mks)**

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11. A hippo of mass 500kg is able to walk on a muddy river bank while a car of mass 220kg is not able. Explain **(2mks)**

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12. Name three types of forces which can act between objects without contact. **(3 mks)**

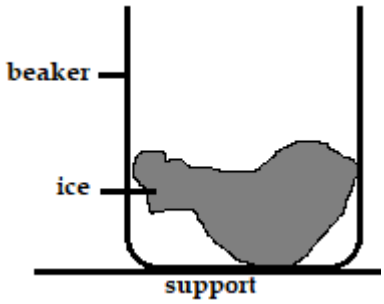
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13. Figure below shows a beaker placed on a bench. A block of ice is placed in the beaker as shown. State and explain the change in the stability of the beaker when the ice melts. **(2 mk)**



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14. Give a reason why water is not a suitable liquid for use in a barometer **(1 mk)**

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15. An astronaut is on the moon. He drops a hammer from a height of 3.2m and it takes 2.0s to hit the lunar landscape. What is the acceleration due to gravity of the moon**?** **(3 mk)**

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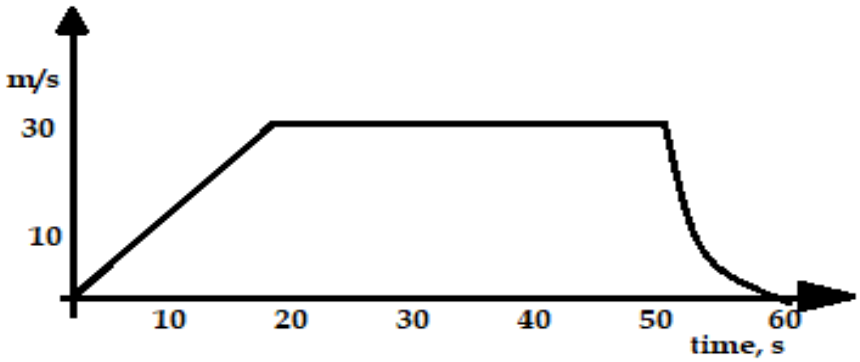
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16. The figure shows a speed-time graph for part of the journey of a motorcar



Determine the distance the car travels in the first 40 seconds **(3 mks)**

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17. In a vacuum flask the walls enclosing the vacuum are silvered on the inside. State the reason for this. **(1 mk)**

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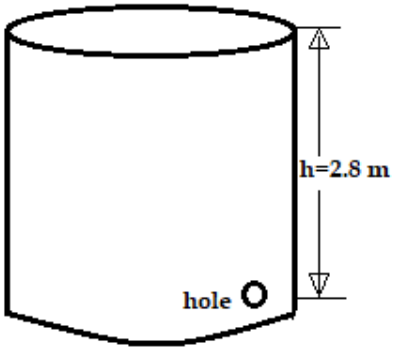
18. What is the difference between energy and work. **(1mk)**

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SECTION B (60 marks)

19. Figure below shows a cylindrical can filled with a liquid of density 0.8 gcm^{-3}. A hole of diameter 2.0 cm is drilled at a depth of 2.8 m from the top of the can.



a. Determine:

i. The cross-sectional area of the hole. **(2mks)**

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ii. The maximum pressure exerted by the liquid at the hole. **(2mks)**

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iii. The maximum force exerted on a jet of liquid through the hole. **(2mks)**

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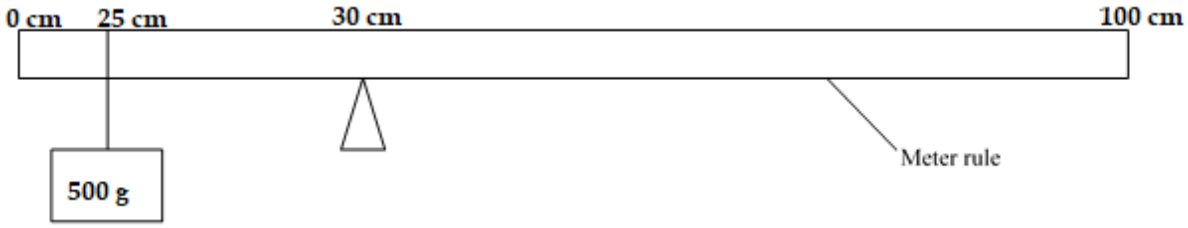
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b. State the principle of moments **(1mk)**

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c. A metre-rule whose centre of gravity is at the 50cm mark balances at the 30cm mark when a mass of 500g is placed at the 25cm mark as shown in the below.



Determine:

i. The mass of the meter-rule **(3 mks)**

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ii. With the metre-rule remaining on the knife-edge at the 30 cm mark, a mass of 125g is suspended from the 70 cm mark. The mass of 500g is moved until the rule is balanced. Determine the new position of the 500g mass **(3 mks)**

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20. a. Define the following terms:

i. Momentum **(1 mk)**

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ii. Terminal velocity **(1 mk)**

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b. A body is initially in motion. If no external force acts on the body, state the motion of the body. **(1 mk)**

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c. A force of 6N acts on a 2kg trolley and accelerates at 2 m/s^2. Calculate the retarding force acting on the trolley. **(3 mks)**

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d. A car of mass 800kg starts from the rest and accelerates at $1.2ms^{-2}$. Determine;

i) The velocity attained in moving 400m from the starting. **(2mks)**

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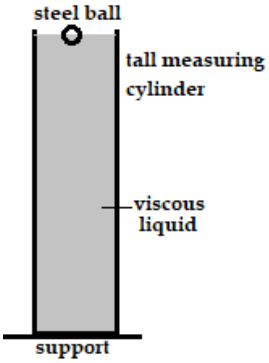
ii) its momentum after it has moved 400m from the starting point. **(2 mks)**

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e. The diagram shows a tall measuring cylinder containing a viscous liquid. A very small steel ball is released from rest at the surface of the liquid as shown.



i. On the space alongside the diagram, sketch the velocity- time graph for the motion of the ball from the time it is released to the time just before it reaches the bottom of the cylinder. **(1 mk)**

ii. Name all the forces acting on the ball when it is mid-way through the tall measuring cylinder **(3 mks)**

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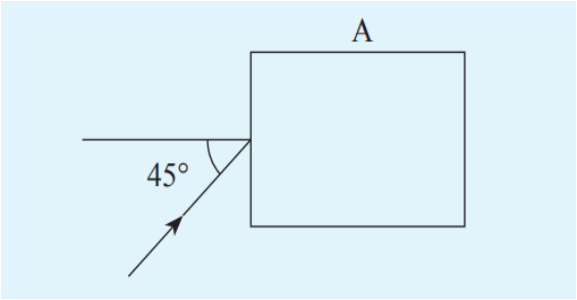
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21. (a) State the Snell's laws**.** **(1 mk)**

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(b) The diagram in figure below shows a ray of light incident on the face of a glass cube of refractive index 1.5.



Calculate: (i) the angle of refraction. **(3 mks)**

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(ii) the critical angle c for glass-air interface**.** **(3 mks)**

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(c) State two conditions necessary for total internal reflection to occu**r.** **(2 mks)**

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(d) A tank full of water appears to be 0.5m deep. If the height of water in the tank is 1.0m, calculate the refractive index of water. **(2 mks)**

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22. (a) State the basic law of magnetism. **(1 mk)**

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(b) State and explain two methods on how a magnet can be destroyed. **(2 mks)**

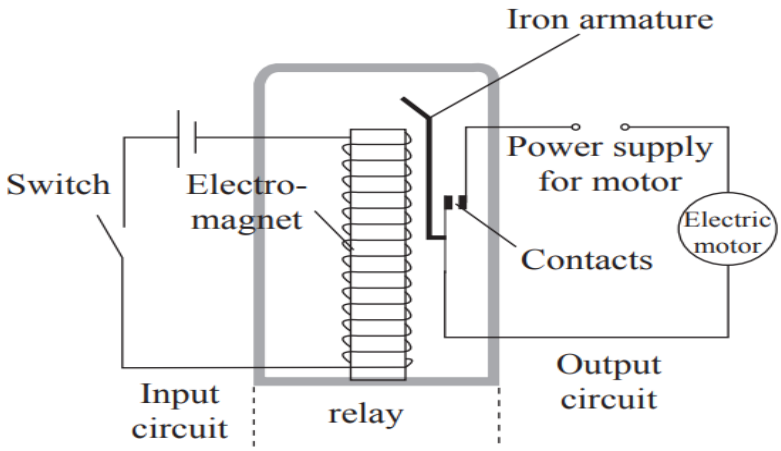
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(c) The figure below shows an electromagnet relay switch.



Explain its operation. **(3 mks)**

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(d) The figure below shows a conductor carrying current in a magnetic field:



(i) Indicate on the diagram, the direction of force on the conductor. **(1 mk)**

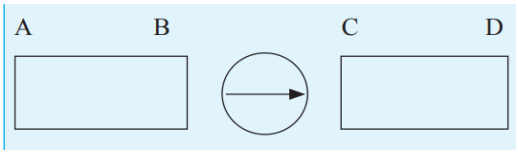
(ii) State two changes that can be made to alter the direction of the force. **(2 mks)**

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(e) The figure shows a plotting compass placed between two magnets.



Indicate the polarity of end C of the magnets. Explain your answer**.** **(2 mks)**

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23. a) (i) Define velocity ratio of a machine**.** **(1 mk)**

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(ii) Draw a labeled diagram of a pulley system with a velocity ratio of 5. **(2 mks)**

(iii) Suggest any two possible reasons why the efficiency does not reach the 100% mark**. (2 mk)**

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b) The effort piston of a hydraulic machine is of radius 2.8 cm, while that of the load piston is of radius 14cm. The machine raises a load of 120 kg at a constant velocity through 2.5m. If the machine has an efficiency of 80%, find:-

(i) The velocity ratio of the hydraulic machine. **(2 mks)**

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ii) The mechanical advantage of the hydraulic machine. **(2 mks)**

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(iii) The effort needed to raise the load. **(2 mks)**

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FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

ENGLISH

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS

1. Answer all the questions.
2. All answers should be written in the spaces provided.
3. This question paper consists of 10 pages. Check to ensure that all pages are printed as indicated and that no questions are missing.

FOR EXAMINER'S USE ONLY

QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1	20	
2	10	
3	20	
4	20	
5	20	
6	10	
TOTAL	100	

QUESTION 1: FUNCTIONAL WRITING (20MKS)

Imagine that your school organized a five-day trip to Mombasa for your club – Music Club. During the trip, the following happened:-

- A tyre burst almost got you into an accident.
- Old students of the school organized a party in a famous hotel for you.
- You visited Fort Jesus and swam in the ocean.
- You attended the National Music Festivals in one of the schools. You were part of the group presenting a choral verse.
- You had a day in which you were free to be engaged in self-directed activities.

Write your personal journal, containing five entries.

QUESTION 2: CLOZE TEST 10 MKS

Fill in the blank spaces with the most appropriate word. (10mks)

'I am done! I am done!' My voice echoed in the forest. I wept bitterly. I did 1_____ know whether I was weeping because my friend was dying 2_____ because I had very little hope of 3_____ the next sunrise 4_____ fell like a heavy blanket covering the 5_____country around us. A hyena, which was apparently watching 6_____helplessness, made a noise which sounded like a hoarse laughter. 7_____ frightened me so much that I could hear my own 8_____ beating. I shouted as 9_____ as my empty stomach would allow me and then 10_____ ran to the forest. From that day to this, when I am telling this story, I have never been confronted by such a problem.

QUESTION 3: READING COMPREHENSION (20 MKS)

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

In case you've ever wondered how much time your daughter spends taking selfies, a poll in 2015 found that the average woman between 16 and 25 years old spends over five hours a week. It sounds like a lot unless you've tried to take selfies yourself and know what an elaborate process it can be. Women take an average of seven shots to get one image, according to the poll; Kim Kardashian said it takes about 15 to 20. Then there are the filters, not to mention real-life alterations like changing lighting or touching up makeup. There are also apps you can use for more drastic procedures like changing your bone structure, slimming your waistline, erasing pimples, and more.

Selfies can be silly and lighthearted, of course, notes Dr. Alexandra Hamlet, a psychologist at the Child Mind Institute. But she also recognizes the darker side, when photos become a measure of self-worth. "With makeup, with **retouch**, with filters, with multiple attempts, it's almost like you're never going to stack up," says Dr. Hamlet, "And that is where I think it gets dangerous."

We're used to worrying about how girls will be affected by seeing too many air-brushed images of models in magazines or movies. But now young people themselves are the models and they're wielding their own image-editing software. This leads to a lot of self-scrutiny as they try to perfect their own images, and comparisons to the pictures their peers are posting. Experts are understandably worried about what this means for kids' self-esteem.

If you've been telling your daughter that she's beautiful just the way she is, she's getting a different message when she opens up *Snapchat* and sees filters and lenses that alter appearances. Pictures used to be final; now we have post-production.

Dr. Hamlet acknowledges that some of the filters are fun and **distort** in amusing ways, but also points out there's a so-called "pretty filter" on *Instagram* and *Snapchat*. Beautifying filters are

used almost reflexively by many, which means that girls are getting used to seeing their peers effectively airbrushed every single day online. There are also image altering apps that teens can download for more substantial changes. *Facetune* is one popular one, but there are many, and they can be used to do everything from erase pimples to change the structure of your face or make you look taller. One app called *RetouchMe* gives your photo a "professional retouch" using a photo editing team for under a dollar. The possibilities can be overwhelming, particularly since girls know they are scrutinized on their appearance — as, of course, they are scrutinizing their peers.

Self-esteem often takes a hit when you start comparing yourself too much to other people, which is something social media seems to be made for. One study found that frequently viewing selfies led to decreased self-esteem and decreased life satisfaction. Another study found that girls who spend more time looking at pictures on Facebook reported higher weight dissatisfaction and self-objectification.

Parents who want to provide a healthy counterbalance to the pressures of social media can start by evaluating how they use social media themselves. Make sure you aren't talking too much about the pictures you post or see, or ask your children to take too many pictures. The **occasional** photo is fine, of course, but make a point of prioritizing being in the moment, too. "If you're taking your kid to a concert, don't allow them to film the whole thing and see it only through the eyes of the camera," says Dr. Hamlet. "That's reinforcing this concept that just being here is not good enough."

QUESTIONS

i. What shows that women take selfies seriously? **2mks**

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ii. What do women use to alter their looks in selfies? **2mks**

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iii. Apps are used to achieve several effects. Cite **three** effects. **3mks**

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iv. What do you think is the different message one's daughter gets when she opens Snapchat? **2mks**

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v. Explain the relationship between self-esteem and social media. **3mks**

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vi. Rewrite the following sentences as instructed: **2mks**

a. "If you're taking your kid to a concert, don't allow them to film the whole thing and see it only through the eyes of the camera," says Dr. Hamlet. (Re-write in reported speech)

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b. Dr. Hamlet acknowledges that some of the filters are fun and distort in <u>amusing</u> ways, but also points out there's a so-called "pretty filter" on Instagram and Snapchat. (Replace the underlined words with suitable word)

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vii. Identify two quotations from an authority, used in the passage**.** **2mks**

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viii. Explain the meaning of the following words and phrases as used in the passage: **3mks**

a) retouch
b) distort
c) occasional

QUESTION 4: THE SAMARITAN 20 MKS

Read the excerpt below and answer the questions that follow. (20 marks)

Mossi:(Turning to Bembe) Oh, yes. And remember to get your undercover officers to shoot in the air now and then. You know... they must know that I leave thunder and smoke in my wake!

Bembe: Consider that done. But the land? Are you sure about it?

Mossi: Consider it done, too. (After some interval of silence) So those are two problems solved; your hotel and tomorrow's vote of no confidence meeting. But we still need to figure out how to deal with The Samaritan.

Mossi:I liked the idea of talking to that teacher at Sagrada Secondary School.

Harvester: Yes, it would be good if we secured an understanding that she will edit or filter some of the information coming out about us.

Mossi;That would solve the whole problem! Very well, I will go there first thing tomorrow morning and talk to her.

Harvester: You never know, she might oblige.

Mossi: But I seriously doubt she will. She struck me as a very difficult person, an enemy of the progress of our Municipality.

Bembe: Let's just try. If she doesn't yield, I will visit her. I have a way of making people switch **allegiances.**

Mossi:I doubt it is advisable for you to go there. You might make things worse. You know sometimes when I think about your approach to problems, I am reminded of what they call the law of the instrument.

Bembe: What is it about?

Mossi: That if all you have is the hammer, you tend to think of every problem as a nail.

Bembe: In times such as these, every instrument must be put to good use. In fact, I have been thinking that we should accuse her of some crime, like stealing school furniture or let's say, a computer, or even a generator and then pin it on her! Then we can tell the judge to put her in!

Harvester: I don't think that will work. Certainly the judge will no**t oblige.**

Mossi:I think so too. (There is silence. Mossi scratches his head thoughtfully) I think our next step will be to talk to the Judge. If he can imprison Ramdaye and his team, we will have killed two hirds with one store: we will have **aborted.**The no confidence vote and we will have responded to the people's demand for imprisonment of corrupt leaders! I will talk to him.

QUESTIONS

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

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(b) What two character traits of Inspector Bembe and one of Mayor Mossi come out in the excerpt?

(6 marks)

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(c) (i) Certainly the judge will not oblige. **(Rewrite adding a question tag)** **(1mark)**

(ii) Yes, in fact, we will get someone to steal the school generator and then pin it on her. **(Rewrite in the reported speech) (1 mark)**

(iii) But we still need to figure out how to deal with The Samaritan. *(Rewrite replacing phrasal verb in bold with one word)* **(1 mark)**

(iv) If she doesn't yield, I will visit her. (Rewrite replacing "if" with "unless") **(1mark)**

(d) Identify two features of style used in the excerpt. **(4 marks)**

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

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(1) ***Explain*** the meanings of following words used in the excerpt. **(4 marks)**

- Filter-
- Allegiance's
- Oblige
- Aborted

QUESTION 5: GRAMMAR (20MKS)

a. **Without changing the meaning, rewrite the following sentences according to the instructions after each. (4 marks)**

i. Passing examinations is a goal. Every candidate should aim at it. (Write as one sentence using 'to')

ii. I thought that you would like to hear what happened. *(Rewrite using 'occurred' in place of 'thought'.)*

iii. I shall be saved a lot of trouble by that. (Begin: *That…)*

iv. The president was impressed by her good performance. He sponsored her education. (*Begin: Impressed……..*)

b. Use the correct pronoun to complete the following sentences. (3mks)

i. My uncle, _____ I am sure you remember, flew to Britain yesterday.

ii. The Principal, _____ is out at the moment, will see you when he comes back.

iii. _____ of the students is brighter?

c. Complete the following sentences with the correct form of the word given. (3mks)

i. The team was _____ for coming late (qualify)

ii. They were _____ attacked by the gangsters (vicious)

iii. The _____ of the matter brought the president to their county. (grave)

d. Use the correct collective nouns in the following sentences (3mks)

e) The naughty boys were stung by a _____ of bees.

f)The guest of honour was given a _____ of flowers.

g) The Member of Parliament arrived in a _____ of vehicles.

e. Supply the correct preposition to complete the sentences given. (3mks)

i. Property worth millions of shillings went up ……. flames.

ii. The two boys shared the bread ……...themselves.

iii. We should strive to live ……our means.

f. Complete the following with an appropriate quantifier from the list given below. Few/ a few, little/ a little. (4mks)

i. As the drought intensified, the school cow produced _____milk.

ii. Don't worry, _____ paraffin will push you till mid-night

iii. Since the game is quite risky, _____ students participate in it.

iv. _____ students participated in the drama festival as the school didn't have enough funds.

QUESTION 6: ORAL SKILLS (10 MKS)

a. Explain the meaning of each of the following sentences according to the stressed (bolded) word in the sentence. **(5 mks)**

i) John invited Mary to the party yesterday.

ii) John i**nvited** Mary to the party yesterday.

iii) John invited **Mary** to the party yesterday.

iv) John invited Mary to the **party** yesterday

v) John invited Mary to the party **yesterday.**

b. Underline the silent letters in each of the following words. **(3mks)**

i) Lamb -

ii) Palm -

iii) Condemn -

c. Provide another word pronounced as each of the following. **(2mks)**

i. Flower –

ii. Bury –

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

KISWAHILI

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

102/2

KISWAHILI

LUGHA

MAAGIZO

a) *Andika jina lako na nambari yako katika nafasi ulizoachiwa hapo juu.*
b) *Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.*
c) *Jibu maswali **yote**.*
d) *Majibu yote yaandikwe kwa nafasi ulizoachiwa.*
e) *Majibu yote lazima yaandikwe kwa lugha ya Kiswahili.*

Kwa Matumizi ya Mtahini Pekee

Swali	Upeo	Alama
1. Ufahamu	15	
2. Ufupisho	15	
3. Matumizi ya Lugha	40	
4. Isimujamii	10	
JUMLA	80	

1. UFAHAMU (Alama 15)

Soma kifungu kifuatacho kisha ujibu maswali yanayofuata.

Watoto wetu huku uswahilini huwa wanapitia masaibu mengi mno. Na hata ukiona mtoto kalelewa hadi kuwa mtu mzima huku kwetu, nadhani kuna haja ya kumpa tuzo kwa kuweza kuhimili mikikimikiki na patashika za maisha ya kila siku. Hawa watoto changamoto zao huanza pale wanapozaliwa kwani hata majina wanayopatiwa huwa yana mengi. Watoto wa huku kwetu hupatiwa majina kulingana na hali halisi ya maisha wakati wanapozaliwa, wapo wanaopewa majina ya chausiku, wengine wanaitwa shida, lakini pia wapo wale wanaoitwa semeni, sikudhani na hata chuki.

Sambamba na majina wanayopatiwa, hawa watoto wa huku kwetu huandamwa na patashika na hekaheka tangu wakiwa wadogo. Kwani maisha ya uswahilini yanajulikana, ni yale yaliyojaa mbio za kutafuta na kuweza kukidhi mahitaji ya siku hadi siku. Napo katika harakati hizo wazazi huwa na muda mdogo wa kuonyesha mapenzi na ukaribu na watoto. Hivyo mzazi akivurugwa kwenye shughuli zake, hasira huishia kwa mtoto, hapo utasikia mtoto akiitwa majina ya wanyama wa aina zote kuanzia paka, mbwa, fisi na hata kuku.

Tunaona akina mama waliohangaishwa na waume zao wanavyomalizia machungu kwa watoto kupitia vipigo, maneno na hata masimango. Wapo wale ambao mume anapotoweka nyumbani kwa siku kadhaa watoto huenda wasipikiwe chakula na wengine wakaamua kutembeza kiboko kwa watoto bila sababu yoyote ya msingi. Hawa watoto wetu huwa wakija huku mtaani wananyemelewa na binadamu wala watu, wale ambao wana sifa ya kuharibu watoto na kuharibu maisha yao, yaani wale wabakaji na wengine wanaodhulumu utoto wao.

Watoto hawa wa uswahilini wanapokuwa watu wazima ni wachache ambao wanaweza kumudu maisha na kuishi katika hali ya kawaida. Kwani kwa watoto wa kiume, wengine waliopitia maisha haya ya patashika nao pia huendeleza patashika hizi katika familia zao. Ndiposa wanakuwa waliotawaliwa na hasira waliokosa upendo kwa wake zao na watoto pia. Wengine wanakuwa wataalamu wa kupiga wake na hata watoto wao.

Halafu wapo wale wanaokuwa hawana habari na majukumu ya familia, anajijali yeye na nafsi yake, bila kujua watoto wanasoma vipi, wanakula nini, wanavaa nini na hata huduma za nyumbani zinapatikanaje. Kuna kila sababu ya kuwapa tuzo wale waliolelewa uswahilini na wakaweza kumudu maisha yao baadaye.

Maswali

a) "Watoto wa uswahilini hukumbwa na masaibu mengi mno". Thibitisha kauli hii kwa kutoa hoja **tano** kutoka kwa kifungu. **(alama 5)**

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b) Mtoto umleavyo ndivyo akuavyo. Eleza jinsi methali hii inaafiki kifungu ulichosoma. **(alama 3)**

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c) Kwa nini mwandishi anadhani kuwa kuna haja ya kuwatuza watoto waliolelewa uswahilini.

(alama 2)

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d) Eleza maana ya vifungu hivi kwa mujibu wa kifungu. **(alama 2)**

i) Binadamu wala watu

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ii) Patashika na hekaheka

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e) Taja na ueleze maudhui makuu yanayojitokeza kwenye kifungu. **(alama 2)**

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f) Kipe kifungu hiki anwani mwafaka. **(alama 1)**

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2. UFUPISHO (Alama 15)

Soma makala haya kisha ujibu maswali yanayofuata.

Moto mkubwa ambao umekuwa ukiendelea katika msitu wa Aberdare kwa wiki mbili zilizopita haujazimwa hadi sasa, huku Wakenya wakiendelea kuteseka kutokana na athari za kiangazi. Moto huo ulioanza katika eneo la Satima kaunti ya Nyandarua, umeharibu zaidi ya ekari arubaini za ardhi. Mnamo Ijumaa, ndege ya helikopta ya shirika la la wanyama pori Kenya. Iliwabeba wanahabari wa shirika la ***Nation*** kutathmini athari za moto huo, ambapo pia umewaathiri wanyama pori.

Hali ya kiangazi na upepo mkali unaoendelea umefanya juhudi za kuudhibiti na kuuzima moto huo kuwa ngumu. Naibu mkurugenzi wa Shirika la Wanyamapori Kenya, katika eneo la uhifadhi wa milima, Bwana Bakari Chongwa, alisema kuwa walinzi wanafanya kila juhudi kuuzima moto huo, ambao umeharibu eneo kubwa la msitu. Walinzi hao walisema wamebaini kiini cha moto huo kuwa shughuli haramu ambazo zimekuwa zikiendeshwa na baadhi ya watu. Walisema kuwa watu hao watakamatwa na kukabiliwa kisheria. Akihutubu kwenye shughuli za kuzima moto huo, Bwana Bakari alidhibitisha kuwa watu wawili wamefariki kwenye visa vinavyohusiana na mioto katika misitu.

Zaidi ya hayo, kando na walinzi wa Shirika la Wanyamapori Kenya kukabili moto huo, kuna ndege yenye uwezo wa kubeba lita elfu mbili za maji inayowasaidia kuzima moto kutoka angani. Afisa huyo alisema moto huo utaathiri sana shughuli za kiuchumi katika maeneo hayo.

Kwingineko, moto mwingine unaendelea kuharibu maeneo muhimu katika msitu wa Mau. Kulingana na wizara ya mazingira, misitu na mabadiliko ya hali ya hewa, Kenya imekumbwa na visa mia moja themanini vya mioto katika muda wa miezi miwili iliyopita. Hayo yanafanyika huku Wakenya 4.2 milioni wakiendelea kuathiriwa na kiangazi. Takwimu hizo ambazo zilitolewa na Shirika la Uhifadhi Chakula Kenya, zinaonyesha kuwa zaidi ya watoto 970,000 walio chini ya umri wa miaka mitano na wanawake 142,000 wanaonyonyesha wanahitaji matibabu ya dharura kutokana na athari za utapiamlo. Mnamo Julai mwaka uliopita idadi hiyo ilikuwa 884,000. Tayari, rais wa nchi ya Kenya amewarai wahisani, sekta ya kibinafsi na wadau wengine kuisaidia serikali katika kubuni mikakati ya muda mrefu kukabili athari za kiangazi. Rais ameahidi kutumia fedha zitakazotolewa vizuri na kwa njia ya uwazi kukabili hali hiyo.

Kwa sasa kaunti ya Turkana, Marsabit, Mandera, Isiolo, Garissa, Baringo na Samburu ni baadhi ya zile zilizoathiriwa sana. kaunti zingine zilizoathiriwa na kiangazi hicho ni Wajir, Pokot Magharibi, Laikipia, Kajiado, Kilifi na Kwale. Kutokana na kiangazi hicho, zaidi ya watu mia tano elfu wanakumbwa na uhaba wa chakula katika kaunti za Machakos, Homabay, Migori, Siaya, Elgeyo Marakwet, Kiambu, Nakuru, Kirinyaga na Murang'a. Katika kaunti ya Machakos, baadhi ya maeneo yalioathiriwa ni Mavoko, Masinga, Kalama, Kathiani kati ya mengine.

a) Kwa kutumia maneno 95-100, fupisha aya nne za kwanza. (al 9) (1ut.)

Matayarisho

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Nakala Safi

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b) Fupisha ujumbe muhimu katika aya mbili za mwisho. (al 6) (1ut)

Matayarisho

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Nakala Safi

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3. MATUMIZI YA LUGHA (Alama 40)

a) Taja sauti zenye sifa zifuatazo. **(alama 1)**

i) Kati, mbele tandazwa ……..

ii) Kikwamizo ghuna cha ufizi ……

b) Unda neno lenye muundo ufuatao wa silabi. **(alama 1)**

K-KKI……..……..

I-KI-KI……

c) Kando na muundo wa **m-wa**, fafanua miundo miwili katika ngeli ya A-WA. **(alama 2)**

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d) Bainisha mofimu katika sentensi. **(alama 3)**

Tulichokikana

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e) Tambua viambishi katika maneno yafuatayo. **(alama 1)**

Jisu …….

Samehewa……

f)Tumia kivumishi cha pekee chenye dhana ya kusisitiza katika ngeli ya LI-YA kutunga sentensi. **(alama 1)**

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g) Nyambua vitenzi vifuatavyo katika kauli zilizo kwenye mabano. (alama 2)

i) sahau – (kutendeka) ……..…….….

ii) lewa - (kutendesha) ……..…….…….

h) Ainisha vitenzi katika sentensi ifuatayo. **(alama 2)**

Amina angali anacheza uwanjani.

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i)Tunga sentensi moja kuonyesha matumizi ya kistari kifupi. **(alama 2)**

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j)Geuza maneno yaliyopigwa mstari kuwa viwakilishi. **(alama 2)**

<u>Kipepeo</u> mweupe anarukia <u>maua</u> mazuri

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k) Tumia ‘o’ rejeshi kuleta dhana ya mazoea katika sentensi ifuatayo. **(alama 2)**

Makundi ambayo huundwa ni hatari katika taifa nzima.

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l) Tambua vielezi katika sentensi ifuatayo na ueleze ni vya aina gani. **(alama 2)**

Kitanda kizuri kilichonunuliwa kiwandani juzi kilitengenezwa kwa mbao.

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m) Andika sentensi ifuatayo katika usemi wa taarifa. **(alama 2)**

"Sitarudi nyumbani leo," Mama alituambia.

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n) Tunga sentensi yenye mpangilio ufuatao wa maneno. **(alama3)**

KN(N+U+N+s) + KT (T+E)

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o) Andika sentensi ifuatayo katika hali ya ukubwa wingi. **(alama 2)**

Mfupa mkubwa umeletewa mbwa

……

p) Andika kinyume cha sentensi ifuatayo. **(alama 2)**

Alikasirishwa na wanafunzi wake kwa kulala mapema.

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q) Ainisha virai katika sentensi ifuatayo. **(alama 3)**

Lango lililojengwa kanisani limeibiwa na wezi.

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r) Eleza matumizi ya ‘po’ katika sentensi ifuatayo. **(alama 2)**

Alipokimbia alifika walipokuwa .

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s) Changanua sentensi ifuatayo kwa kutumia visanduku/jedwali. **(alama 4)**

Waliobaki ni wale wafupi

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t)Unda nomino inayoishia kwa kiishio ‘u’ kutokana na kitenzi kifuatacho.

tukuza **(alama 1)**

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4. ISIMUJAMII **(Alama 10)**

Soma makala yafuatayo kisha ujibu maswali.

“Shida hiyo ilianza lini?... Umempa dawa yeyote?... Nenda kwenye *lab* ukapimwe kisha uniletee matokeo.

a) Tambua sajili ya makala haya. **(alama 2)**

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b) Eleza sifa nane za sajili uliyotambua hapo juu. **(alama 8)**

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FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

AGRICULTURE

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

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

b) *This paper consists of three sections A, B and C. Answer all questions in sections A and B. Answer any two questions from section C.*

c) *Answers to all questions should be written in the spaces provided.*

FOR EXAMINERS USE ONLY

SECTION	QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1 – 18	**30**	
B	19 – 23	**20**	
C		**20**	
		20	
	TOTAL SCORE	**90**	

SECTION A (30 Marks)

Answer ALL questions in the spaces provided

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

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

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3. Name **four** materials that are collected by bees**.** **(2mks)**

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4. Give two reasons for the two month dry period the cow requires before parturition **(1mks)**

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

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6. State **four** disadvantages of inbreeding in livestock. **(2mks)**

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

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8. Give **four** advantages of live fence**s** **(2mks)**

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9.List **four** factors that influence the pulse rate of an **animal** **(2 mks)**

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10. State **four** qualities of colostrums which make it suitable for feeding newly born calf. **(2mks)**

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11. Name two dual purpose breeds of **cattle** **(1mk)**

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

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13. State four reasons for steaming up in animal production**.** **(2mks)**

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14. Give two causes of high mortality in piglets. **(1mk)**

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15. List **four** factors associated to the animal that determines the amount of feed animals consumed **(2mks)**

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16. Give **two** reasons why drenching alone is not an effective method of controlling intestinal parasites in livestock. (**1mks)**

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17. Give **four** factors considered in siting a farm structure **(2mks)**

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18. Give two light breeds of chicken in poultry rearing **(1mks)**

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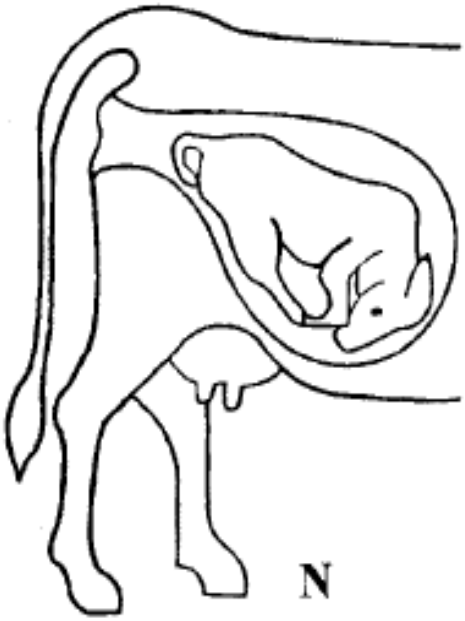
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SECTION B (20 Marks)

Answer all questions in this section in the spaces provided after every question

19. The illustration below show different presentation of foetus at the time of birth. Study the illustrations and answer questions that follow.





(a) What diagram represents the normal position of a calf at birth **(1mk)**

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(b) What term is used to refer to position shown in diagram **N?** **(1mk)**

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(c) State two signs of parturition in cattle. **(2mks)**

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20. Observe the tools A, B and C illustrated below then answer the questions that follow.



A B C

a) Name tools A, B and C and state the correct use of each tool. **(3mks)**

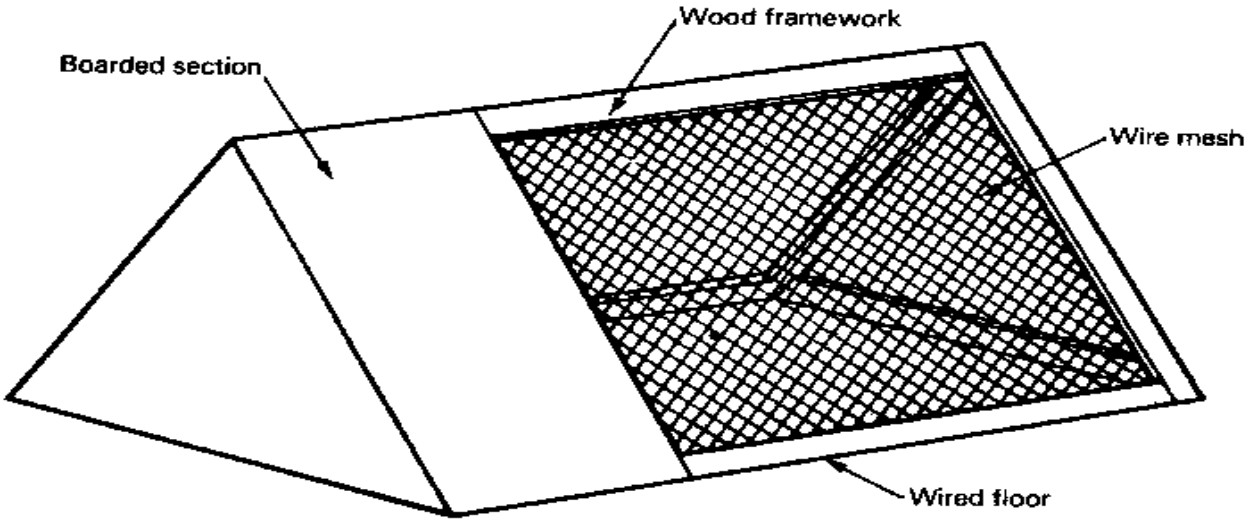
Tool	Identity	Function
A		
B		
C		

b) State **two** maintenance practices that should be carried out to ensure that tool C is in a good working condition. **(2mks)**

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21. The diagram below represents a poultry keeping structure.



(i) Identify the structure. **……..... (1 mk)**

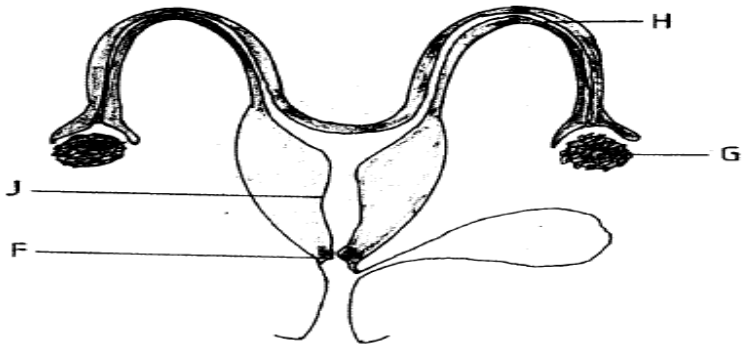
ii) State the use of wire mesh**……** **(1mk)**

(iii)State the disadvantage of the above structure in rearing of poultry. **(1mk)**

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22. The diagram below shows the reproductive system of a cow. Study it and answer the questions that follow



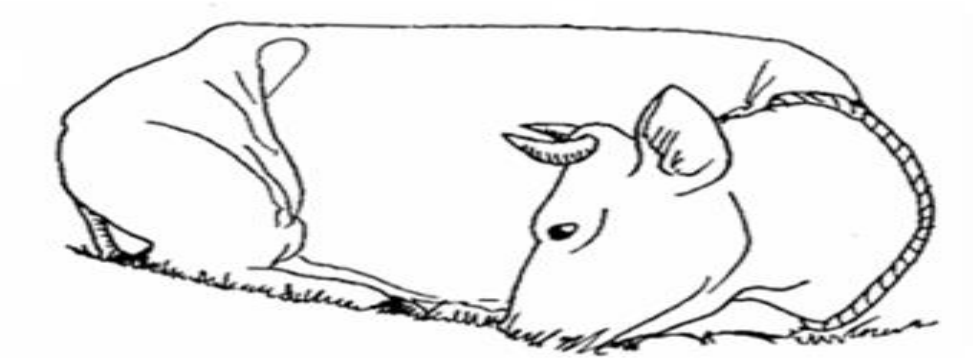
(i) Name the parts labeled J , F and H. **(3mks)**

J ……..

F ……..

H ……

(b) The illustration below shows a cow suffering from a disease. Study it and answer the questions that follow



i) Identify the disease**……** **(1mk)**

ii) State the cause of the disease illustrated above. **(1mk)**

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iii) Give **two** symptoms of the disease the animal is suffering from. **(2mks)**

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23. Study the illustration showing a livestock management practice and answer the questions that follow.



a) Identify the livestock management practice illustrated above. **(1mk)**

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SECTION C (40 Marks)

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

24. (a) Describe fish management under the **procedure** for establishing a pond. **(7mks)**

(b) State **five** factors that determine the quality of **honey** **(5mks)**

(c) Describe cattle management at dipping. **(8mks)**

25. a) Describe **five** parts and function of the zero Grazing Unit **(10mks)**

(b) State and explain **five** factors considered when selecting a breeding stock. **(5mks)**

(c) Explain **five** mechanical methods of controlling ticks. **(5mks)**

26 (a) State **four** advantages of embryo transplant. **(4mks)**

(b) Give **four** reasons why young rams should be docked **(4mks)**

(c) Explain **six** characteristics of a dairy cow. **(12mks)**

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

BUSINESS STUDIES

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS

Answer All the Questions In The Spaces Provided

1. Classify the following wants as either basic or secondary. **(4 marks)**

(a) Need for shelter _____

(b) Education _____

(c) Need for a car _____

(d) Entertainment _____

2. List four means of audio-visual communication. **(4 marks)**

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3. Outline four functions of intermediaries. **(4 marks)**

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4. Define the following areas of Business Studies**.** **(4 marks)**

(a) Economics - _____

(b) Accounting - _____

(c) Office practice - _____

(d) Commerce - _____

5. Highlight four factors that may contribute to the ineffectiveness of a warehouse. **(4 marks)**

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6.State four limitations of Facebook as a way of communication to the user in social media. **(4 mks)**

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7. Outline four features of a perfect competition product market **(4 marks)**

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8. In the spaces provided below, indicate the types of utility created by each of the following commercial activities. (4 marks)

Commercial Activity	**Type of utility**
(a) Transporting goods	_____
(b) Selling goods to a customer	_____
(c) Making a chair from timber	_____
(d) Store keeping	_____

9. State four ways of increasing effectiveness of human porterage. **(4 marks)**

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10. Highlight four internal business environment that may negatively affect the operations of a business. **(4 marks)**

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11. Outline four features of ordinary shares**.** **(4 marks)**

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12. Outline four duties of a personal secretary**.** **(4 marks)**

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13. State four circumstances under which an insurer may refuse to insure an applicant. **(4 marks)**

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14. State four types of information that a buyer should seek from a seller using a letter of inquiry**. (4 marks)**

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15. Highlight four emerging trends in product promotion**. (4 marks)**

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16. Explain five ways of determining the size of a firm**. (10 marks)**

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17. Explain five reasons as to why entrepreneurs are required to generate business plans.**(10 marks)**

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18. Explain five methods of price determination other than price mechanism in a market.**(10 mrks)**

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19. Explain five disadvantages of government involvement in business. **(10 marks)**

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FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

CHRISTIAN RELIGIOUS EDUCATION

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS;

- ***Answer any five questions***
- ***All answers must be written in English***

1. a). Identify six reasons why Jesus used parables in His teachings**.** **(6mks)**

b). Describe the parable of the Pharisees and the tax collector. (**Luke 18: 9-14).** **(8 mks.)**

c). Give six reasons why Christians **pray.** **(6mks)**

2.a). Outline the preparations that Jesus made for the last supper.(**Luke 22:7-14).** **(7mks)**

b). Describe four areas of conflicts between Jesus and the Jewish religious leade**rs.** **(8mks)**

c).Give five factors that bring conflicts among church leaders t**oday.** **(5mks)**

3. a).Give seven reasons why Jesus sent the Holy Spirit to the disciples after His ascension**.(7mks)**

b).Outline seven teachings about Jesus from Peter's speech during Pentecost. (Acts 2:1-40**).** **(7mks)**

c).State six activities that Christians engage in which demonstrate their love for God**.** **(6mks)**

4. a).Explain what the teaching of Jesus about the vine and the branches in John 15;1-10 reveal about the unity of believers**.** **(8mks)**

b).Identify seven factors which caused disunity in the early church**.** **(7mks).**

c).Give five ways in which Christians prevent divisions in the church in Kenya today**.** **(5mks)**

5. a) .Outline eight roles of prophets in the **Old Testament.** **(8mks)**

b). Identify six ways through which the Old Testament prophets communicated their messages to the people**.** **(6mks)**

c). Identify six problems experienced by church leaders in their work. **(6mks)**

6. a). Describe seven traditional practices which demonstrate people's believe in God**.** **(7mks)**

b).Explain the methods which are used to teach the youth in Traditional African Communities **(7mks)**

c).State six factors which undermine the role of elders in the society **today.** **(6mks)**

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

HISTORY AND GOVERNMENT

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

311

HISTORY AND GOVERNMENT

FORM THREE

TIME:$2\frac{1}{2}$ Hrs

INSTRUCTIONS TO THE CANDIDATE

- ***a)*** *This paper consists of **three** sections **A,B** and **C.***
- ***b)*** *Answer **all** questions in section **A,** three in section **B** and **two** in section **C.***
- ***c)*** *This paper consists of **eight** printed pages, the candidate should check the question paper to ascertain that all pages are printed and that no questions are missing*
- *d) The candidate should answer all the questions in **English.***

SECTION A

Answer all questions from this section (25 Marks)

1. Identify the branch of history that deals with people's way of governance. **(1 mk)**

2. Give two characteristics that distinguish man from other primates. **(2 mks)**

3. Give two religious roles performed by the Orkoiyot of the Nandi during the pre-colonial period. **(2 mks)**

4. Identity two treaties that were signed between the British and the Arab rulers at the Coast of East Africa to end slavery and slave trade. **(2 mks)**

5.Name two methods that European powers used to acquire colonies in Africa. **(2 mks)**

6. Name one chartered Company that European powers used to administer the East African protectorate**.** **(1mk)**

7.Name one treaty that was signed between Lewanika of the Lozi and the British. **(1 mk)**

8.Name one African community that took part in the Maji Maji uprising between 1905 and 1907. **(1 mk)**

9.Identify the main reason why the local government was established in colonial Kenya. **(1 mk)**

10.Identify two roles that Mekatilili Wa Menza played during the Agiriama resistance to colonial rule in Kenya. **(2 mks)**

11. Identify two Sub-sections of the Luo community which resisted British rule in Kenya. **(2 mks)**

12. Name the British administrator who introduced indirect rule in Northern Nigeria. **(1 mk)**

13. Name one commune in Senegal where the policy of assimilation was successfully applied. **(1mks)**

14. Identify two duties of African Chiefs in the British colonial administration in Nigeria. **(2 mks)**

15. Name the white settler who introduced wheat growing in Kenya**.** **(1 mk)**

16. State two duties of the governor in colonial Kenya. **(2 mks)**

17. Name the constitutional month when General elections are held in Kenya. **(1 mk)**

SECTION B

Attempt Only Three Questions From This Section (45 Marks)

18.a)State three economic activities of the Borana in the pre-colonial period in Kenya. **(3 mks)**

b) Explain the political organization of the Akamba during the Pre- colonial period. **(12 mks)**

19a). List down five terms of the Anglo-German agreement of 1890 (Heligoland treaty). **(5 mks)**

b)Explain five reasons why armed resistance by Kenyan communities was defeated by the British in the colonial period. **(10 mks)**

20.a) Identify five reasons why Kabaka Mutesa I of the Buganda collaborated with the British**.** **(5 mks)**

b) Explain five causes of the Franco –Mandinka War (1891 -1897). **(10 mks)**

21. a) List down three aims of the construction of the Kenya- Uganda railway during the colonial period. **(3mks)**

b) Apart from providing settlers with land, explain six other ways through which the colonial government promoted settler farming in Colonial Kenya. **(12 mks)**

SECTION C (30 MARKS)

Attempt only TWO questions from this section.

22.a) Name three rights to children in the constitution of Kenya. **(3 mks)**

b)Explain six circumstances under which the government of Kenya may limit the freedom of movement of a person. **(12 mks)**

23a). Name five sources of the British constitution. **(5 mks)**

b) Explain five advantages of a written constitution. **(10mks)**

24a)State three conditions that Africans had to fulfill in order to become assimilated French citizens in Senegal. **(3mks**

b)Explain six reasons why the British applied indirect rule in Northern Nigeria. **(12) mks)**

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

GEOGRAPHY

TIME: 2¾ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

312

GEOGRAPHY

FORM 3 EXAM

Time: 2 ¾ hours

INSTRUCTIONS TO CANDIDATES

(i) *This paper consists of two sections A and B answer all questions in section A*

(ii) *In section B answer question 6 and any other two questions.*

(iii) *All questions must be written in the answer booklet provided.*

FOR EXAMINER'S USE ONLY

Section A	**1 – 5**	
Section B	**6**	
	7	
	8	
	9	
	10	
TOTAL		

SECTION A

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

(b) State two effects of the rotation of the **earth** **(2mks)**

2. (a) Name three types of folds **(3mks)**

(b) State two factors that determine the folding of crustal **rocks** **(2mks)**

3. (a) What is **forestry** **(2mks)**

(b) State three factors that has led to the reduction of the area under forests on the slopes of Aberdare **ranges** **(3mks)**

4. (a) Name three forms of precipitation that commonly occur in East Africa **(3mks)**

(b) What is a Stevenson screen**?** **(2mks**)

5. (a) Name two scales used to measure intensity of an **earthquake** **(2mks)**

[b]Give three causes of earthquakes **(3mks)**

SECTION B(75 MARKS)

Answer question 6 and any other two questions

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

(a) (i) Give the six figure grid reference of Air photo principal point 92/KE/3153 **(2mks)**

(ii) Measure the distance of the road C544 from the Rabour market to Nyamonge junction. Give your answer in **kilometers** **(2mks)**

(b) Citing evidence from the map give four social activities carried out in the area covered by the map **(8mks)**

(c) Describe the drainage of the area covered by the map **(8mks)**

(d) Draw a square 10cm by 10cm to represent the area to the East of Easting 00 and between northing 80 to northing 90 **(1mk)**

On the square mark and label ;

[i]All weather road.
[ii]Kano plain;
[iii) River Ombeyi
[iv] Papyrus swamp. **(4mks)**

7. (a) Name two types of earth movements **(2mks)**

(b) Describe the origin of the continents according to the theory of continental drift **(8mks)**

(c) Name three types of faults **(3mks)**

(d) (i) Students are planning to carry out a field study of faulting in Rift valley. State four importance of having a pre-visit of the area **(4mks)**

(ii) Name any three features they are likely to identify which are as result of faulting **(3mks)**

(iii) State three methods they are likely to use in the data **recording** **(3mks)**

(iv) State two problems they are likely to experience during the **study** **[2mks]**

8. (a)(i) Give the difference between mass wasting and weathering **(2mks)**

(ii) State four physical conditions that influence the rate of mass movements **(4mks)**

(b) Explain the following process of weathering

(i) Hydration **(2mks)**

(ii) Oxidation **(2mk)**

(iii) Frost action **(3mks)**

(c) (i)Give three processes of slow mass movements **(3mks)**

(ii) Outline the effects of mass wasting on the environment **(4mks)**

9. a(i) Differentiate between the long and cross profile of a river **(2mks)**

(ii) Give any five characteristics of the river in the youthful stage **(5mks)**

(iii) Name three types of river erosion **(3mks)**

b (i) explain three ways in which river transport its **load** **(6mks)**

(ii) Name four features formed by river deposition in old stage **(4mks)**

(c) (i) What is river **rejuvenation** **(2mks)**

(ii) Outline 3 causes of river **rejuvenation** **[3mks]**

10. (a) State six factors that influences exploitation of minerals **(6mks)**

(b) (i) Name two surface mining methods **(2mks)**

(ii) Give three uses of soda ash **(3mks)**

(c)State four effects of mining on the **environment** **(4mks)**

(d) Name any two oil producing countries in the Middle East **[2mrks]**

(e) Explain four economic benefits of **mining** **(8mks)**

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

HOME-SCIENCE

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS

Answer all the questions in section A and B and two questions in section C.

SECTION A – 40 MARKS

1.Give the correct meaning of each of the following: -

I.A stain: **(1mk)**

II. Suction**:-** **(1mk)**

III. Meal management **(1mk)**

IV. Lacto vegetarians **(1mk)**

V.Dessert:- **(1m)**

2. State three qualities of a well-made seam. **(3m)**

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3. Suggest three ways of managing a victim who is nose bleeding**.** **(3m)**

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4. Give three guidelines on darning articles. **(3m)**

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5. List down two qualities of a good **advertisement** **(2m)**

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6. Mention three uses of old newspapers during a general cleaning**.** **(3m)**

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7. State three functions of the skin**.** **(3m)**

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8. Give two qualities of a good water storage container. **(2m)**

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9. List down four commonly used embroidery stitches. **(2m)**

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10. Point out 2 factors that affect the cleaning frequency of a **kitchen.** **(2m)**

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11. State 2 reasons of using fabric conditioner**.** **(2m)**

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12. Mention 2 causes of missing machine stitches**.** **(2mks)**

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13. Suggest two ways by which nutrients can be lost during storage. **(2m)**

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14. Give two advantages of grouping clothes storage**.** **(2m)**

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15. Name two types of advertisement. **(2m)**

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SECTION B. 20 MARKS (COMPULSORY)

16. You have planned to spend your weekend at home. Describe the procedure you will follow in Carrying out the following tasks. **(10M)**

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(a) Use charcoal as an abrasive to clean a stained **aluminium** **(10m)**

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SECTION C – 40 MARKS

Answer any 2 questions from this section .

17(a) Point out five advantages of constructing traditional houses. **(5m)**

(b) State three advantages and two disadvantages of dry cleaning articles**.** **(5m)**

Advantages

Disadvantages.

(c) Highlight five ways of managing a child suffering from kwashiorkor. **(5m)**

(d) Identify five precautions to take when cleaning glass utensils. **(5m)**

18(a) Suggest five ways of encouraging a child to play. **(5m)**

(b) Briefly discuss five points to consider when planning meals for elderly **persons.** **(5m)**

(c) By use of well labelled diagrams explain how work out a French seam**.** **(10m)**

19(a) Suggest five ways of caring for the **sink** **(5m)**

(b) Briefly explain five factors that determine the dietary needs of individual family members **(10m)**

(c) Point out five properties which make acetate suitable for making garments**.** **(5m)**

*****END*****

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

COMPUTER STUDIES

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

SECTION A (40 MARKS)

Answer all the questions in this section

1. State the technology used in the following computer generations. **(2mks)**

4th generation

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1st generation

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2nd generation

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3rd generation

……

2. Outline **two** areas that should be considered when categorizing software. **(1mk)**

……

……

3. State any three disadvantages of a magnetic diskette or floppy diskette. **(3mks)**

……

……

……

4. a) Define data processing ` **(1mk)**

……

……

b) Explain **two** characteristics of good information. **(2mks)**

……

……

……

5. Distinguish between data verification and data validation. **(2mks)**

……

……

……

6. Describe the following menu tools as used in Ms. Word. **(2mks)**

i) Print layout

……

……

ii) Web layout.

……

……

7. Define the following terms as used in mail merging. **(4mks)**

Main document

……

……

……

Data source

……

……

……

8. **a)** What is the difference between real- time system and Online systems. **(2mks)**

……

……

……

b) Explain how information and communication technology has contributed to teaching and Learning in schools. **(2mks)**

……

……

……

9. List any **four** ways of dealing with virus on a computer. **(4mks)**

……

……

……

……

……

10. Convert 111.010_2 to a decimal number. **(3mks)**

……

……

……

……

……

11. Explain TWO types of error that are likely to exist in a program. **(4mks)**

……

……

……

……

……

12. State **two** ways in which **ICT** can be used in industrial control. **(2mks)**

……

……

……

13. State **two** reasons why it is necessary to have well connected and proper cables in a computer lab. **(2mks)**

……

……

……

14. Explain the functions performed by:

a) The control unit **(2mks)**

……

……

b) Arithmetic and logic unit (ALU)

……

……

15. What is a relational database? **(1mk)**

……

……

……

SECTION B (60 MARKS)

Answer question 16 and any other three questions from this section in the spaces provided.

16. (a) State the three basic types of program control structures. **(3mks)**

……

……

……

b) Differentiate between Source program and Object code in programming. **(4mks)**

……

……

……

……

……

c) Mumias sugar company pays casual employees based on the number of hours worked as follows

Less than 10 hours @ khs 100/= per hour

Up to 15 hours @khs 150/= per hour

More than 15 hours@khs. 200/=per hour

a) Write a pseudo code to input the name, rate hours worked. The pseudo code should output the name, hours worked and the wage paid. **(8mks)**

17. a) Give any three circumstances that may make an organization to develop new information system. **(3mks)**

b) Study the spreadsheet below and answer the questions that follow

	A	B	C	D
1	WESTLINK COMPUTER BOOKS CENTRE			
2	TITLE	PRICE	NO.SOLD	COST
3	Computer longhorn book 2	320	25	
4	Visual basic (6)turbo	820	21	
5	Computer longhorn book 4	350	100	
6	Computer science	900	12	
7	Computer Applications	845	36	
8	Computer hardware	1250	10	
9	Computer software	1250	27	
10				

i) Write down the formula that can be used to find the cheapest book. **(2mks)**

ii) Write down the formula that can be used to determine the total sales for the book titled' computer Applications. **(2mks)**

iii) Write down the formula that can be used determine the average price of the books. **(2mks)**

c) State any three advantages of using an electronic spreadsheet as compared to a traditional worksheet. **(3mks)**

d) State three advantages of automated production in manufacturing industries. **(3mks)**

18. a) State any two roles of a Computer trainer as a career opportunity. **(2mks)**

b) i) Distinguish between a primary key and a foreign key as used in DBMS. **(2mks)**

ii) What do the term **header** and **footer** mean? **(2mks)**

c) Convert the 522_8 to its base 10 equivalent. **(3mks)**

d) Using long division methods convert 67_{10} into binary. **(3mks)**

e) 0utline three disk management activities. **(3mks)**

19. a) Differentiate between analog and digital data. **(2mks)**

b) Outline three advantages of using computers for data processing over other types of office and business equipment. **(3mks)**

c) State four devices under direct control of the operating system. **(4mks)**

d) Briefly describe the following types of computational errors **(3mks)**

(i) Truncated

(ii) Transposition

(iii) Transcription

e) Explain three most commonly used coding schemes. **(3mks)**

20. a) State one advantage and two disadvantages of command line interface. **(3mks)**

Advantage

Disadvantages

b) Explain three communication services offered through internet. **(3mks)**

c) Other than computer viruses, errors are accidental, discuss any three threats to computerized system and explain the preventive measures that can be taken to avoid such threats. **(6mks)**

d) Explain what is meant by data back up and name two dangers of inadequate data backup procedures. **(3mks)**

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

FRENCH

TIME: 2 HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

Answer all the questions in French

COMPREHENSION

Passage I

Dans le village ou ils passent leurs vacances, Jean, Charlot et Paulette ont connu un vieux marchand qui avait une auto qui les emmenait souvent dans les villes et les villages de la région. Un jour, pour jouer une farce à leur viel ami, ils se sont cachés dans sa voiture sous des sacs vides. Quelqu'un est monte dans l'auto qui est parti dans la direction de la montagne. Les jeunes ont découvert que celui qui conduisait était un étranger. C'était un effet un escroc qui ayant déjà vole de l'argent, a pris la voiture pour s'enfuir. Enfin, l'auto a arrêtée et le voleur est descendu et il s'en est allé. Jean qui savait a peine conduire, a réussi à faire partir la voiture. Les enfants ont fait dans la nuit le voyage périlleux. Au matin, ils sont arrives dans le village.

Question

a. Qu'est-ce que les trois enfants ont voulu **faire ? 2mks**

b. Qu'est-ce qui leur est arrivé ? **2mks**

c. Donnez un synonyme d'un nom '**périlleux'.1mk**

Section B Grammaire

Répondez à toutes les questions

I Répondez aux questions en écrivant à la forme négative ***12pts***

1. Est-ce qu'il fait quelque chose ce soir ?

Non

2. Les garçons arrivent toujours à l'heure ?

Non

3. Tu as vu quelqu'un là-bas ?

Non

4. Vous avez déjà fait les courses?

Non,

5. Nous mangeons seulement des légumes

Nous ne

6. J'ai un dictionnaire de français

Je

II *Dans les phrases suivantes utilisez 'avoir mal' ou 'se faire mal'* ***10pts***

Ex : j'ai mal au dos

Le dos me fait mal

1. Il a mal aux dents

Les dents

2. les yeux nous font mal

nous

3. Tu as mal à la poitrine

La poitrine

4. Les jambes leur font mal

Ils

5. Elle a mal à la main gauche

La main gauche

III Conjuguez les verbes entre parenthèses a l'imparfait 10pts

1. Nous (aller) a la mer chaque matin

2. Maryline (jouer) avec son frere pendant le soir

3. Tu (attendre) cette promotion avec impatience

4. Vous (être) la meilleure chanteuse dans le monde

5. Les élèves (manger) équilibre a l'école

IV *Remplacez les mots soulignes avec les pronoms 'y' et 'en' 5pts*

1. Il va en Belgique

Oui

2. Vous allez à la campagne

Non

3. Le stylo est dans le sac

Oui

4. Les étudiants viennent du terrain de sport

Non

5. Tu vas chez le dentiste?

Non

V *Ecrivez les phrases suivantes au passe compose 12pts*

1. Vous sortez de la maison a sept heures pile

2. Je m'habille très tôt le matin

3. Ann prend un coca-cola aujourd'hui

Hier aussi

4. J'ai beaucoup de problème maintenant

La semaine dernière

5. Ce soir ils finissent leurs travaux

Le weekend passe

6. Nous allons en France cet été

VI Each of the following sentences has an error. Find it and rewrite the sentences correctly12pts

1. Il lis un roman dans la sale à manger

2. Paul et Pierre a un ami qui habitent à Londres

3. Nous suis très contents de vous voir cette matin

4. C'est un amis

5. A la banque Jackline travaille

6. Pierre ma avec mère mon marche vont au et

VII Mettez les phrases suivantes au style indirect 6mks

Ex : Elle dit: «Je vais au marché»

Elle dit qu'elle va au marche

1. Pierre dit : «J'ai faim»

Il dit

2. Le directeur nous dit : «Allez à la bibliothèque»

Il nous dit

3. Je dis a Pauline: «Ne prend pas du soda»

Je lui dis

4. Les jeunes filles disent : «Nous sommes fatigues»

Ils disent

5. Ma mère déclare : «Ces enfants sont méchants»

6. Papa leur dit: «Levez-vous»

Il leur dit

VIII Répondez aux questions suivantes en français 4pts

1. Quel âge avez-vous?

2. Ou se trouve votre école?

3. Combien de matières étudiez-vous?

4. Quel est votre couleur préféré?

IX Match the items in column A with those in column B

Column A

1. Pour la poste s'il vous plait ?
2. Allez prenez un verre
3. Que penses-tu de cette robe ?
4. Comment est votre nom ?
5. C'est bien vous le chef ?
6. Allo Monsieur Mulwa s'il vous plait ?
7. Ça fait combien le kilo des oranges ?

Column B

a) C'est Komen
b) Oui, toute la journee
c) Bien msecerci
d) Bien sur vous en avez le droit
e) C'est par ici
f)Trois kilos
g) Patientez un peu
h) Merci bien

1	2	3	4	5	6	7

Section C Dice 5mks

1.

2.

3.

4.

5.

Section D Composition writing 10mks

In 120-150 words, write a composition in French on:

EITHER

a) Un programme d'activité pour ton anniversaire le samedi

OR

Vous êtes malade et à l'hôpital, écrivez un dialogue entre vous et le docteur

FORM 3 MID-TERM 2 EXAMS

SERIES 2 COMPREHENSIVE

MATHEMATICS

TIME: 2½ HOURS

NAME……. ADM NO; ……..

CLASS…… DATE……..

INSTRUCTIONS TO CANDIDATES

1. *Write your name and admission number in the spaces provided at the top of this page.*
2. *This paper consists of two sections:* **Section I and Section II.**
3. *Answer **all** questions in* **section I** and ONLY five questions in Section **II.**
4. *Show all the steps in your calculations, giving your answers at each stage in the spaces below each question.*
5. *Marks may be given for correct working even if the answer is wrong.*
6. ***KNEC** Mathematical tables may be used.*

FOR EXAMINER'S USE ONLY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total

17	18	19	20	21	22	23	24

Grand Total

SECTION I (50 Marks)

Answer all the questions in this section.

1. Solve for x in $16^{2x+1} = 0.25$. **(3 marks)**

2. Evaluate. **(3 marks)**

$$\frac{\frac{3}{4} + 1\frac{5}{7} \div \frac{4}{7} \text{ of } 2\frac{1}{3}}{\left(1\frac{3}{7} - \frac{5}{8}\right) x \frac{2}{3}}$$

3. Simplify $(1+\sqrt{3})(1-\sqrt{3})$ and hence evaluate $\frac{1}{1+\sqrt{3}}$ to 3 significant figures given that $\sqrt{3} = 1.7321$. **(3 marks)**

4. A line passes through the points A (1, 3) and B (3, 7). Determine;

a) The gradient of line AB. **(1 mark)**

b) The equation of line AB in the form $ax + by = c$. **(2 marks)**

c) The x – intercept of line AB. **(1 mark)**

5. Three business men Peter, James and David contributed a total of Ksh. 82,250 to start a business. The ratio of the contribution of Peter to James was 2:3 and that of James to David was 4:5. How much did David contribute? **(3 marks)**

6. The length and width of a rectangle are stated as 18.5cm and 12.4cm respectively. Both measurements are given to the nearest 0.1cm. Calculate the percentage error in the area of the rectangle. **(3 marks)**

7. A refrigerator can be bought in cash for Ksh. 35,000. The same refrigerator can be purchased on hire purchase terms by first paying a deposit of Ksh 6,000 followed by 24 equal monthly instalments of Ksh. 1,500. Calculate the hire purchase price and the carrying charge. **(3 marks)**

8. Otieno bought 3 trousers and 2 sweaters at a total cost of Ksh. 1575. If he had bought 2 trousers and 3 sweaters he would have spent Ksh.225 more. Find the cost of 5 trousers and 2 sweaters. **(4 marks)**

9. Solve for x in the equation $\frac{1}{2}\log_2 81 + \log_2(x - \frac{x}{3}) = 1$ **(3 marks)**

10. An electric post erected vertically is 20 m from point P on the same ground. The angle of elevation of the top, T, of the post from P is $30°$. Given that S is the midpoint of the post, calculate, correct to 1 decimal place, the angle of elevation of S from P. **(3 marks)**

11. Given the inequalities $x - 5 \leq 3x - 8 < 2x - 3$

(a) Solve the inequalities. **(2 marks)**

(b) List the integral values of x that satisfy the combined inequality in (a) above. **(1 mark)**

12. Without using mathematical tables or a calculator, evaluate: **(3 marks)**

$$\sqrt[3]{\frac{0.4 \times 1.28}{0.0608 + 0.0032}}$$

13. A hemispherical bowl has external and internal radii as 21 cm and 17.5 cm respectively. It is made of a material whose density is 9.3 g/cm^3. Calculate the mass of the bowl in kilograms.

(4 marks)

14. Ali's family is watching a movie. Ali checked the watch and realized that the movie ended at 0110h. If the movie lasted 2.3 hours, what was the time on Ali's watch when the movie started.

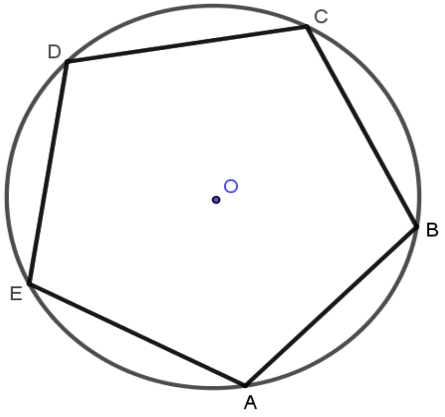
(2 marks)

15. A forex bureau in Nairobi Kenya buys and sells foreign currency at rates shown below.

	Buying in Ksh.	**Selling in Ksh.**
Euro	129.80	131.60
UAN Dirhams	28.40	29.80

A Belgian tourist arrived in Nairobi, Kenya with 5000Euros. She converted the whole amount to local currency. While in Kenya she spent Ksh.321200 and changed to UAE Dirhams before leaving for Dubai. Calculate the amount in UAE Dirhams that she received. **(3 marks)**

16. The diagram below shows a regular pentagon ABCDE inscribed in a circle of radius 1.5 cm and centre O.



Calculate the area of the pentagon**.** **(3 marks)**

SECTION II (50 Marks)

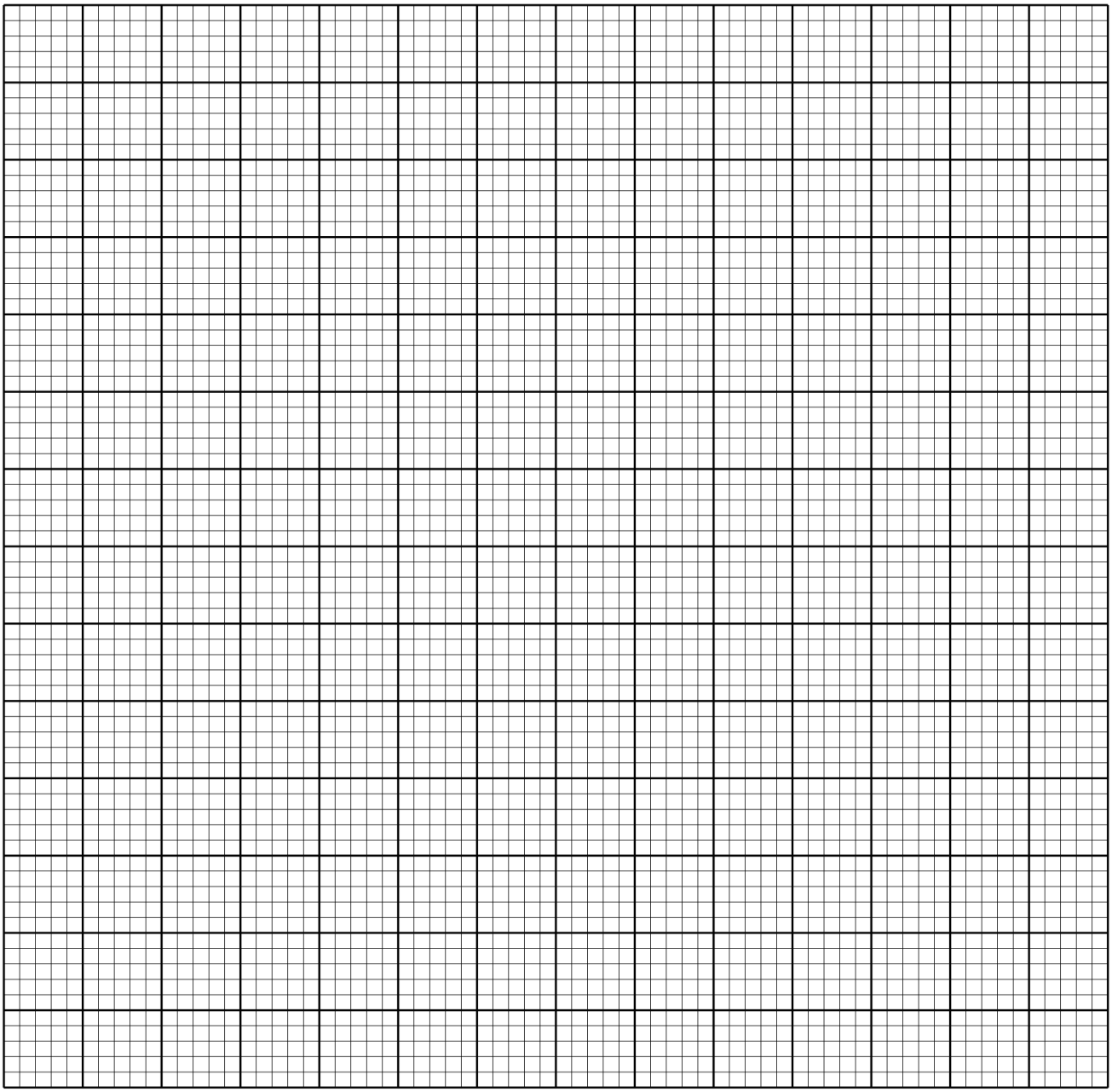
Answer ONLY Five questions in this section.

17. Complete the table below for the:

a) Equation $y = 6 + x - x^2$ taking integral values of x in $-3 \leq 0 \leq 5$. **(2 marks)**

x	-3	-2	-1	0	1	2	3	4	5
6	6	6	6	6	6	6	6	6	6
x	-3	-2	-1	0	1	2	3	4	5
$-x^2$		-4			-1		-9		25
y			4		6		0	-6	

b) On the grid provided draw the graph of $y = 6 + x - x^2$ for $-3 \leq x \leq 5$. **(3 marks)**



c) Using the same axes draw the graph of $y = 2 - 2x$. **(2 marks)**

d) From your graph find the values of *x* which satisfy the simultaneous equations.

(1 mark)

$y = 6 + x - x^2$

$y = 2 - 2x$

e) Write and simplify a quadratic equation which is satisfied by the values of *x* where the two graphs intersect. **(2 marks)**

18. The table below shows marks obtained by 100 candidates at East side high school in biology examination.

Marks	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 – 84	85 – 94
Frequency	6	14	24	14	x	10	6	4

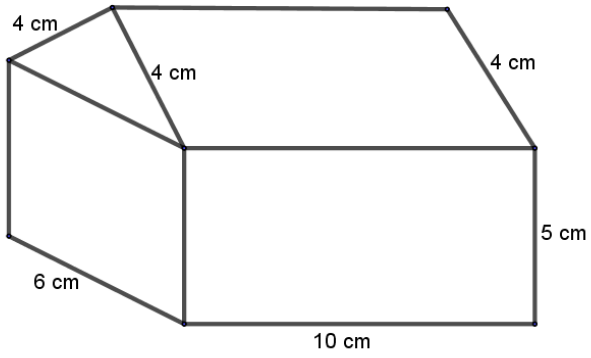
a) Determine the value of x. **(2 marks)**

b) State the modal class (**1 mark)**

c) Calculate the median mark **(3 marks)**

d) Calculate the mean mark **(4 marks)**

19. The figure below shows a metallic block with a uniform cross section. Calculate;



a) Its volume**.** **(4 marks)**

b) Its surface area. **(3 marks)**

c) The block was melted and recast into a cone of height 18 cm. Determine the radius of the cone formed. **(3 marks)**

20. A surveyor recorded the measurement of a maize farm in a field book as shown below. (Take XY = 400m as the base line). All measurements are in metres.

	Y	
	360	80 to Q
80 to R	280	
160 to S	200	
	80	200 to P
	X	

a) Using a scale of 1cm to represent 40 metres draw the map of the field. **(5 marks)**

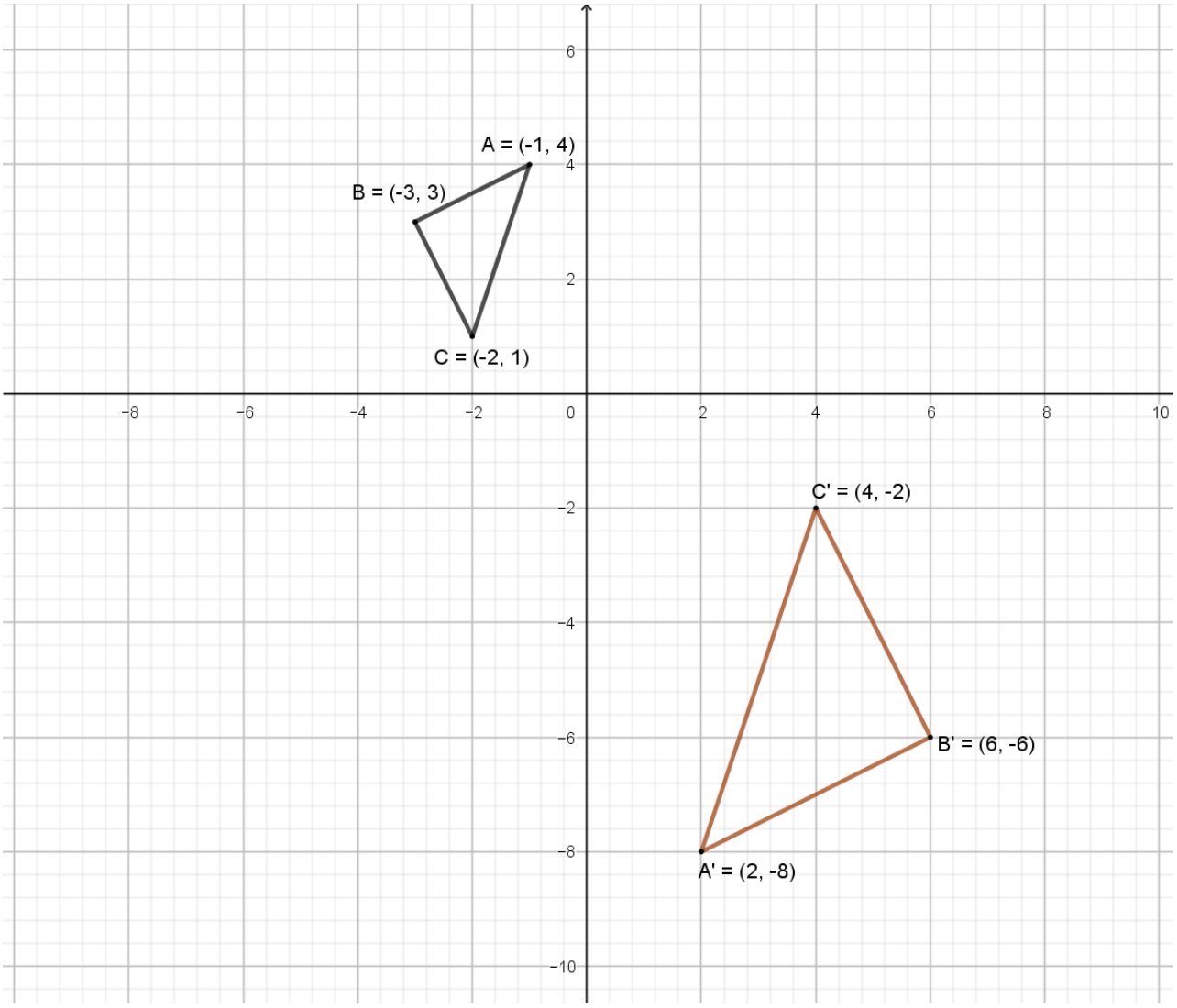
b) Find the area of the farm in hectares. **(5 marks)**

21. A Businessman is paid a commission of 5% on sales of goods worth over Ksh 100,000. He is paid a monthly salary of Ksh 15,000 but 2% of his total earning is remitted as tax. In a certain month he sold goods worthy Ksh. 500,000.

a) Calculate his monthly net earnings that month. **(5 marks)**

b) The following month, his monthly salary increased by 20%. His commission was increased to 10% but on goods worth over Ksh. 200,000. If his total earnings that month was Ksh 64,800, Calculate the money received from the sale of goods**.** **(5 marks)**

22. Triangle ABC and $A'B'C'$ are drawn on the grid.



a) Describe fully a single transformation that mapped triangle ABC onto triangle $A'B'C'$. **(2 mks)**

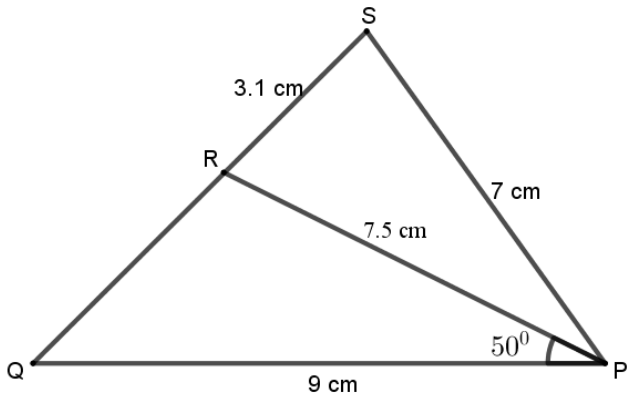
b) On the same grid, draw:

i. Triangle $A''B''C''$ the image of triangle $A'B'C'$ under a rotation of $+90°$ about $O\ (0,0)$. **(2 mks)**

ii. Triangle $A'''B'''C'''$ the image of triangle $A''B''C''$ under a reflection in the line $y = -x$. **(2 mks)**

c) Draw the line of symmetry of triangle $A'B'C'$ and hence determine its equation in the form $y = mx + c$, where m and c are constants**.** **(4 marks)**

23. In the diagram below, $PQ = 9cm, PS = 7cm\ RS = 3.1cm$ and PR=7.5cm. Angle $QPR = 50°$.



Calculate

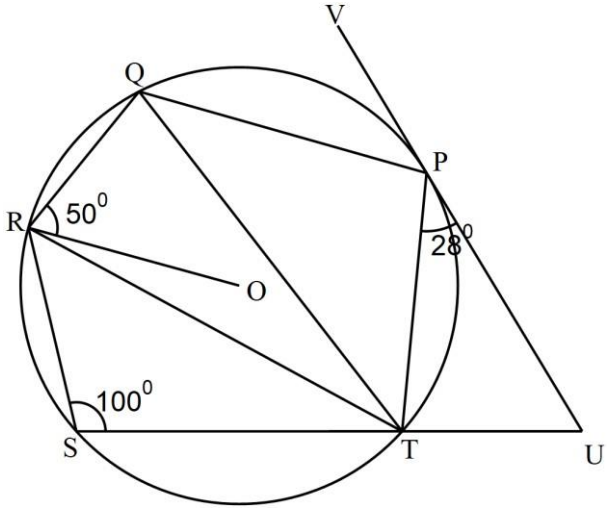
(a) The distance from Q to R. **(2 marks)**

(b) The size of angle Q. **(3 marks)**

(c) The size of angle RPS. **(3 marks)**

(d) Area of triangle PQS. **(2 marks)**

24. In the figure below, P,Q,R,S and T lie on the circumference of a circle centre O. Line UPV is a tangent to the circle at P. Chord ST of the circle is produced to intersect with the tangent at U. Angles UPT, RST and ORQ are $28°, 100°$ *and* $50°$ respectively.



a) Determine the sizes of the following angles;

i. RTP **(3 marks)**

ii. QTP **(3 marks)**

(b) Given that $PQ = 6\ cm$, calculate correct to 1 decimal place, the radius of the circle.

(4 marks)

THE END

FOR THE FOLLOWING;

- ✓ ONLINE TUITION
- ✓ REVISION NOTES
- ✓ SCHEMES OF WORK
- ✓ SETBOOKS VIDEOS
- ✓ TERMLY EXAMS
- ✓ QUICK REVISION KITS
- ✓ KCSE TOPICALS
- ✓ KCSE PREMOCKS
- ✓ TOP SCHOOLS PREMOCKS
- ✓ JOINT PREMOCKS
- ✓ KCSE MOCKS
- ✓ TOP SCHOOLS MOCKS
- ✓ JOINT MOCKS
- ✓ KCSE POSTMOCKS
- ✓ TOP SCHOOLS PREDICTIONS
- ✓ KCSE PREDICTIONS
- ✓ KCSE REVEALED SETS

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0746-222-000 / 0742-999-000

mwalimuconsultancy@gmail.com

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