Assessment Number: ……

PRESIDENT'S OFFICE

REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

KIBAHA TOWN COUNCIL

NYUMBU SECONDARY SCHOOL

FORM ONE MID – TERM EXAMINATION

CODE: 031 **PHYSICS**

TIME: 2:30 HOURS **August, 2023**

Instructions

1. This paper consists of sections **A, B** and **C** with a total of **Ten (10)** questions
2. Answer **all** questions
3. Section A and C carry **fifteen (15) marks** each and section B carries **seventy (70) marks**.
4. All answers must be written in black or blue ink except **drawing** which should be in pencil.
5. All communication devices, calculators and any unauthorized materials are **not** allowed in the examination room.
6. Write your **Examination Number** at the top right corner of every page.
7. Where necessary the following constants may be used:

   ✔ Acceleration due to gravity, $g = 10\frac{m}{s^2}$

   ✔ $\pi = 3.14$

FOR EXAMINER'S USE ONLY		
QUESTIONS NUMBERS	**SCORE**	**EXAMINER'S INITIAL**
1		
2		
3		
4		
5		
6		
7		
8		
9		

Assessment Number: ……

10		
TOTAL		
CHECHER'S INITIAL		

SECTION A (15 Marks)

Answer **all** questions in this section

1. For each of the items (i) — (x), choose the correct answer from the given alternatives and write its letter in the box provided.
   i) Which one of the following arguments describes the mathematical language used in Physics?
      A. Matter occupies space
      B. Density is mass per volume
      C. Volume is amount space occupied by the body
      D. Physics is branch of science
   ii) (ii)A student has got an electric shock and fell unconscious in the Physics laboratory.Which decision would you take to help the victim immediately?
      A. Administer breath exercise.
      B. Call the physicist.
      C. Call other students.
      D. Contact a medical doctor.

   iii) An empty glass cup was placed on a digital balance and its mass was 43.63 g. Water was then added into the cup and the balance recorded a new mass of 71.06 g. What was the exact mass of the water added into the cup?
      A. A .114.69 g
      B. 27.43 g
      C. 71.06 g
      D. 43.63g

iv) Why are machine engines filled with lubricant oil?
   A. To reduces friction between moving particles.
   B. To increase the viscosity between moving particles.
   C. To balance the forces acting between moving particles
   D. To return the twisted solids to their former state.

v) A ship sinks lower in fresh water than in sea water. What can you conclude about the density?
   A. Fresh water is denser than sea water.
   B. The density of the sea water is same as of the ship.
   C. The sea water is denser than fresh water.
   D. Sea water and fresh water have the same density.

vi) A sample of milk diluted with water has a density of 1040 kg/m^3. If pure milk has a density of 1080 kg/m^3, then percentage of water by volume in the diluted milk is:
   A. 55%
   B. 40%
   C. 50%
   D. 45%

vii) The sea water is denser than fresh water due to:
   A. Mixing of sand
   B. Stagnation
   C. Mixing salts
   D. Evaporation

viii) Instrument used for measuring the density or relative density of liquid is known as:
   A. Spherometer
   B. Mercury meter
   C. Buoyancy meter
   D. Hydrometer

ix) A person measures the length, width, height, and mass of a rectangular metal block. Which of these measurements must be used in order to calculate the density of the metal?
   A. Mass only
   B. Height and mass only
   C. Length, width, and height only
   D. Length, width, height and mass

x) The force acting on a stone falling from the roof of a house is an example of
   A. Falling force
   B. Magnetic force
   C. Force of gravity
   D. Electrostatic force

Assessment Number: ……

i	ii	iii	iv	v	vi	vii	viii	ix	x

2. Match each item in **List A** with response in **List B** by writing letter in the given space.

LIST A	LIST B
i) Work	A. Is the rate of doing work.
ii) Energy	B. An electronic device used to convert energy from one form to another.
iii) Power	C. Is the ability to do work
iv) Machine	D. Is the product of force and distance.
v) Transducer	E. Is anything that can be used to simplify work.

LIST A	i	ii	iii	iv	v
LIST B					

SECTION B (70 MARKS)

Answer **all** questions in this section

3. We need energy in doing different activities in our daily life. Explain in detail five (5) different forms of energy.

i) ……

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ii) ……

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iii) ……

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iv) ……

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v) ……

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4. Explain in detail main five (05) steps in scientific investigation

i) ……

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ii) ……

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iii) ……

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iv) ……

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v) ……

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5. What do you understand by the following terms

i) Upthrust

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ii) Sinking

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iii) Floating

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iv) Apparent loss in weight

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v) Real weight

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6. (a)State the following principle and law

i) Archimedes Principle

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ii) The Law of Floatation

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(b) Write three differences between floating and sinking

Floating	**Sinking**
i)	i)
ii)	ii)
iii)	iii)

7. A stone of 2kg falls from a height of 25 m above the ground

(a) Calculate potential energy possessed by the stone

(b) Which force causes the stone to fall down after thrown

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8. A piece of glass weighs 5 N in air and 3 N when completely immersed in water calculate its.
   (a) The actual weight of a piece glass

   (b) The apparent loss in weight

   (c) Density of glass

   (d) Relative density

9. (a)What do you understand by the term Force

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b) By using well diagram, explain the different between Attractive force and Repulsive force

Assessment Number: ……

SECTION C (15 Marks)

10.(a) Draw and label the diagram as used to determine the weight of substance in water

(b) List all instruments and requirements used in determining the weight of substance in air

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(c) A body weighs 0.52 N in air. When total immersed in water it weighs only 0.32N while its weight when immersed in another liquid is 0.36 N. The density of water is 1000 kg/m3. What is the density of the other liquid?

Assessment Number: ……