

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
UKEREWE DISTRICT COUNCIL



FORM ONE EXAMINATION
PHYSICS

Time 2:30 Hours
INSTRUCTIONS

Year 2025

- This paper consist of sections **A,B** and **C**
 - Answer all questions in section **A, B** and **C**
 - All writing must be in blue or black ink
 - All answers must be written in the spaces provided.
 - Cellular phones are not allowed in the examination room
 - Write your Examination Number at the top right corner of every page
- Where necessary you may use the following constants.

- (a) Acceleration due to gravity, $g=10\text{m/s}^2$.
- (b) Density of water $=1000\text{kg/m}^3$
- (c) Density of mercury $=13.6\text{g/cm}^3$ or 13600 kg/m^3 (d)
- Atmospheric pressure $= 103360\text{ Pa}$

SECTION A (15 MARKS)

Answer all questions

1. For each items i-x, choose the correct answer from among the given alternatives and write its letter in the box provided.
 - (i) Amina was taking measurement of volume of liquid by using a measuring cylinder. The meniscus formed during the experiment was as shown in the figure below.



Which kind of liquid was poured in measuring cylinder?

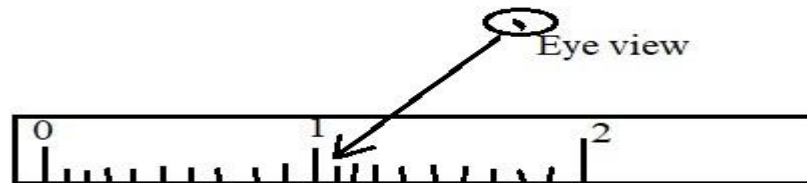
- A. Water
- B. Alcohol
- C. Mercury

- D. Turpentine
- (ii) The following represent the list of SI unit of basic fundamental quantities.
- A. Newton, kilogram and second.
 - B. Candela, mol and ampere
 - C. Second, gram and centimeter
 - D. Metre, second and kilogram
- (iii) Is the branch of physics that deals with the study of universe and everything in it:
- A. Mechanics
 - B. Geophysics
 - C. Astronomy
 - D. Light
- (iv) A cylinder of radius 14cm and height 8cm has a mass of 14.784kg. The density of the cylinder in g/cm^3 will be:
- A. 2 B. 3
 - C. 4
 - D. 3.5
- (v) The following represent a list of fundamental forces, what are those forces.
- A. Friction, gravity, electromagnetic, nuclear forces.
 - B. Stretching, compressional, weak nuclear and strong nuclear forces.
 - C. Weak nuclear, strong nuclear, gravity and torsional force.
 - D. Gravity, electromagnetic, weak nuclear and strong nuclear.
- (vi) Juma was taking measurement in the laboratory by using the device as shown in the figure below, the device causes some errors on his measurement. Which kind of error the device indicates?



- A. Instrumental error
 - B. Negative zero error
 - C. Parallax error
 - D. Positive zero error
- (vii) The ratio of density of substance to the density of water represent the kind of physical quantity called:

- A. Mass
 - B. Weight
 - C. Density
 - D. Relative density.
- (viii) In scientific procedures that is considered during experiments the guess statement or prediction that need to be proved experimentally is called: A. Conclusion
B. Problem identification
C. Hypothesis
D. Data analysis
- (ix) If the person has a mass of 60kg on the earth's surface, its weight on the moon will be:
A. 100N
B. 600N
C. 60Kg
D. 300N
- (x) A form one student was taking measurement in the laboratory by using a metre rule. He recorded the value/reading by placing the eye as shown in the figure below. Unfortunately, he got a wrong reading. What kind of error is associated in that occasion?



- A. Parallax error
 - B. Zero error
 - C. Instrumental error
 - D. Reading error
2. Match the case in list A with list corresponding term in list B your answer sheet provided.

LIST A	LIST B
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(i)	Measures volume by allowing liquid to run out from it	A. Pipette
(ii)	Transfer specific volume of liquid from one container to another.	B. Burette
(iii)	Measures volume of liquid by running into it.	C. Micrometer screw gauge
(iv)	Measures length to an accuracy of 0.001cm	D. Measuring cylinder
(v)	Measures length to an accuracy of 0.01cm	E. Overflow can
		F. Vernier caliper
		G. Metre rule

SECTION B (70 MARKS) Answer all questions in the space provided.

3. (a) Force is

The SI unit of force is

(b) Two students of Makambako Secondary were arguing each other about the effect of force on the body. As form one student help them by describing the four effect of forces on the body.

4. (a) Give the meaning of each of the following terms:

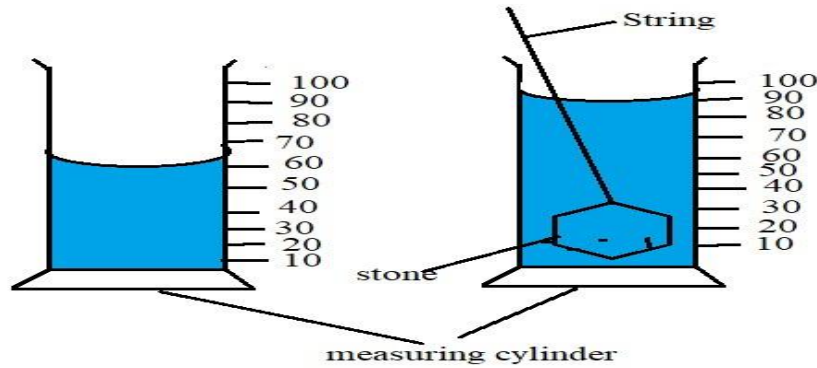
- (i) Physics
- (ii) Matter
- (iii) Energy

(b) List down the seven steps/procedures of scientific investigation that need to be followed when conducting experiment in laboratory in sequence or chronological order.

5. (a) State the following laws and principle:

- (i) Archimedes principle state that
- (ii) Law of floatation state that

(b) The figure below shows the experiment which was conducted by form one student when Finding the volume and density of an irregular stone. Find



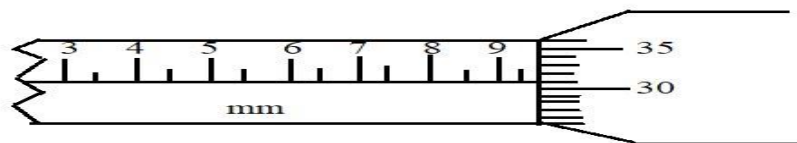
(i) The volume of stone in cm^3

(ii) The density of stone given that its mass is 15g

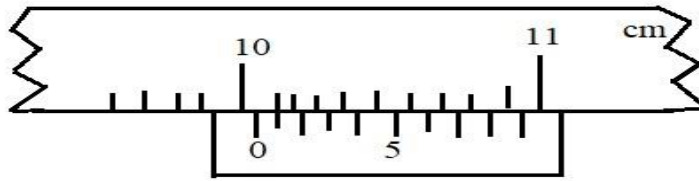
6. (a) Explain why?
- The weight of the body in liquid is less than the weight of the body in air.
 - A coin sink in water while a ship larger than coin float.
- (b) If an object weighs 30N on the earth. What will be its mass?
($g = 10\text{N/kg}$)
- (c) write three differences between mass and weight.

7. (a) With two examples to each define the following terms:
- Fundamental quantities
 - Derived quantities is
- (b) From the figures below determine the diameter of an object;

i.



ii.



8. (a) Explain four applications of density and relative density in real life.

(b) A tin containing 50cm^3 of paint has a mass of 50g when empty. If the mass of tin is 70g when full filled with paint. Calculate;

(i) The density of paint.

(ii) The relative density of paint given that density of water is 1g/cm^3

9. (a) Two students of Mbalamaziwa secondary were arguing each other about the contribution of Physics to the development of modern society. As form student help them by explaining on how physics is applied in the following field.

(i) In communication

(ii) In transport

(b) A body weighs 8N in air and 5N when totally immersed in water of density 1g/cm^3 . Calculate;

(i) The up-thrust acting on the body.

(ii) The volume of the body

SECTION C (15 MARKS)

10. (a) Write down the four steps of using Vernier caliper.
 (b) Draw a well labelled diagram of micrometer screw gauge.
 (c) State four causes or reasons for errors to occur: