

PHYSICS**FORM 1****OPENER EXAMINATION: TERM 2 2024****MARKING SCHEME**

1. Define the term physics (1mk)

Physic is defined as the study of matter and its relation to energy.

2. Name 6 branches of Physics (6mks)

- **Mechanics**
- **Waves**
- **Atomic physics**
- **Electricity and magnetism**
- **Geometrical optics**
- **thermodynamics**

3. Explain briefly how physics is related to each of the following subjects (2mks)

(a) Geography

Invention of weather instruments eg thermometer, hydrometer wind –vane etc used to study weather

(b) Biology

- **Knowledge of lenses which help to study cell and knowledge of levers which help to explain locomotion in biology**

(c) Technology

- **Invention of x-rays body scanners, lensers, used to diagnosis and treatment of diseases**
- **I industrial development, entertainment devices, technology based on war, atomic bombs and laser guided bombs etc**

4. State seven (8) career opportunities arising from physics. (8mks)

- **Architecture**
- **Home science and technology**
- **Agricultural and home economics**
- **Electrical and communication engineering**
- **Food, Nutrition and dietetics**
- **Range management**
- **Nursing**
- **Agricultural engineering**

5. What is a laboratory? (2mks)

- **It is a facility/room designed and equipped for conducting scientific research, experiments and measurements.**

6. State six basic laboratory rules you have read. (6mks)

- **Doors and windows to be open when expose are on**

- **Poor dressing must be put on with shirts/blouses tacked in**
- **Electric switches, 1st aid kit, gas supply and water etc to be noted**
- **Never taste, eat or drink anything in the laboratory**
- **Keeping floors and working surfaces dry, spillage should be wiped off with liquids on floor cleared**
- **Hands must be washed before leaving the laboratory**

7. State the immediate approach to any person who suffers to any of the following effects.

(i) Poisoning (2mks)

- **Noting the poisoning agent**
- **Urgent medical assistance required**
- **Removing the victim to area of lush cold water over the affected part**
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(ii) Burns (2mks)

- **Burns should generally be treated by flushing cold water over the affected part**
- **Acid burns are treated with sodium hydrogen carbonate/baking soda boric acid or vinegar**

(iii) Cuts (2mks)

- **If cut results from bleeding, pressure or direct compression is applied to the wound**
- **Proper dressing should be applied and eventual medical assistance.**

8. Define the term

(i) Length and state its SI (2mks)

- **Length is a measure of distance between two points. Its unit of length is meter. (m)**

9. Name three instruments used to measure length. (3mks)

- **Metre rule**
- **Tape measure**
- **Vernier caliper**
- **Micrometer screw gauge**
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10. Define each of the following terms as used in physics

(a) Volume (2mks)

- **Is defined as the amount of space occupied by a substance**
- **SI unit cubic Metre squared (M^3)**

(b) Area (2mks)

- **Is the quantity that expresses the extent of a given surface on a plane**
- **SI unit metre squared (M^2)**
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(c) Mass (2mks)

- Mass of an object is defined as the quantity of mater in it Si Units kilogram (kg)

(d) Density (2mks)

- The density of a substance is its mass per unit volume SI units kilogram per cubic metre (kgm^{-3})

11. Name and state what the following instruments are made for (2mks)

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12. The mass of 25cm^3 of ivory was found to be 0.045kg . Calculate the density of ivory (in Si units) giving your answer in Kg/m^3 . (4mks)

$$\begin{aligned} \text{Vol} &= \left(\frac{25}{1,000,000} \right) \text{m}^3 \\ \text{Mass} &= 0.045\text{kg} \\ &= 45/1000\text{kg} \\ \text{Density} &= \left(\frac{\text{mass}}{\text{volume}} \right) \\ &= \frac{45/1000 \times 1,000,000}{25} \\ &= 1800 \text{ kg m}^{-3} \\ &= 1800\text{kgm}^{-3} \text{ Ans} \end{aligned}$$



13. Fill the following table

Substance	Mass	Volume	Density
Gold	9.6g	0.5cm^3	
Copper		5cm^3	8.6g/cm^{-3}
Air	0.0006g	0.5cm^3	
Lead		1.5cm^3	11.29g/cm^{-3}
Glycerine	10g		1.26g/cm^{-3}
Alcohol	1000g		0.8g/cm^{-3}
Water	220kg		1.0g/cm^{-3}
Mercy	0.068kg		13.6g/cm^{-3}

14. State six types of forces you know (6mks)

