FORM 1 PHYSICS MARKING SCHEME

1. Define physics? (1mks)
   It is the study of matter and relation to energy

2. Describe three branches of physics. (6mks)

   - **Mechanics**
   - **Electricity of magnesium**
   - **Thermo dynamics**
   - **Geothermal optics**
   - **Waves**

3. Describe any three relationship between physics and other subjects. (6mks)

   - **Physics and region**
   - **Physics and history**
   - **Physics and geography**
   - **Physics and home science**
   - **Physics biology**
   - **Physics chemistry**
   - **Physics and technology**

4. List five laboratory rules. (5mks)

   - **Tuck in shirts and blouses- gas tap should be closed**
   - **Wear closed shoes- Wash hands after experiment**
   - **Follow instructions and fully**
   - **Windows and doors should be open when working in the laboratory**
   - **No eating in the lab**

5. Define length and state its SI units. (2mks)
   - **Length is a measure of distance between two points. SI unit is metre (M)**

6. State 2 factors that determine the choice of instrument to measure length. (2mks)
   - **Level of accuracy desired.**
   - **Size of the object to be measured.**

7. (a) What is the SI unit for area. (1mk)

   M^2

   (b) Express the following into M^2 (4mks)
   (i) $9000cm^2$
   $1m^2=10000cm^2$
   ? $9000cm^2$
   $=0.9m^2$

(ii) $0.05cm^2$

$10000 – 1m^2$ **$0.05/10000 = 0.000005$**
$0.05cm^2$

8. The water level in a burette is $30cm^3$, 55 drops of water fall from the burette and average volume of one drop is $0.12cm^3$. What is the final water level in the burette. (3mks)

Volume of all drops – 355 x 0.12
=6.6cm
30 x 6.6cm3 36.6cm^3

9. (a) Define mass and give its SI units. (2mks)
- Mass is quantity of matter in an object. Its SI unit is kilogram.
(b) Covert the following into kilograms (1mk)
(i) 2 tonne
I tone – 1000kg
2 tonne – 200kg

(ii) 400 grams
1000g – 1kg
400gram ? 400/1000 0.4kg

(iii) 600mg (millgram)
600/1000= 0.0006kg

10. The mass of $20cm^3$ of wood was found to be 0.4kg. Calculate the density of wood
a) In kg/m^3 (2mks)
Density = mass/volume=0.4/0.00002=2000kg/m^3
b) In g/cm^3 (2mks)

0.4 x 1000=40g/20cm^3=2g/cm^3

11. How has physics helped in advancement in medicine. (4mks)
- **Gamma rays used to destroy body cells**
- **Microscopes observes disease causing organisms**
- **Stethoscope checks heatbeats**
- **Lenses used to correct eye defects**
- **X rays used for producing**
- **Brain scanner check damage in brain**
- **Hearing aids used by people with ear problems**

12. State four apparatus used in physics laboratory. (4mks)
    - **Ammeter**
    - **Voltmeter**
    - **Thermometer**
    - **Beam balance**
    - **Metre rule**
    - **Wires**
    - **Lenses**
    - **Mirrors**
    - **Diodes**
    - **Resistors**
    - **Bulbs**
    - **magnets**

13. Express each of the following volumes in M^3
    a) $27cm^3$ (2mks)

    Im3= $1000000cm^3$
    ? $27cm^3$
    $0.000027m^3$

    b) $11000mm^3$ (2mks)
    $1m^3=1000mm^3$
    ? $11000mm^3$
    $11cm^3$
    $1m^3=1000000xm^3$
    ?=11000cm
    =11000 = $0.011m^3$

14. Define volume and its SI units (2mks)
    - **It is the amount of space occupied by matter. SI units $metre^3$**

15. Define density and state the SI unit.
Density is mass per unit volume of in object. Its SI unit is kilogram per cubic metre. (kgm^{-3}or kg/m^3)