**FORM ONE**

**PHYSICS**

**MID TERM1 EXAM 2021**

1. Define physics? (1mks)

 **It is the study of matter and relation to energy**

1. Describe three branches of physics. (6mks)
* **Mechanics**
* **Electricity of magnesium**
* **Thermo dynamics**
* **Geothermal optics**
* **Waves**
1. 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**
1. 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**
1. Define length and state its SI units. (2mks)
* **Length is a measure of distance between two points. SI unit is metre (M)**
1. State 2 factors that determine the choice of instrument to measure length. (2mks)
* **Level of accuracy desired.**
* **Size of the object to be measured.**
1. (a) What is the SI unit for area. (1mk)

M2

(b) Express the following into M2 (4mks)

**(i) 9000cm2**

**1m2=10000cm2**

**? 9000cm2**

**=0.9m2**

(ii) 0.05cm2

**10000 – 1m2 0.05/10000 = 0.000005**

**0.05cm2**

1. The water level in a burette is 30cm3, 55 drops of water fall from the burette and average volume of one drop is 0.12cm3. What is the final water level in the burette. (3mks)

 **Volume of all drops – 355 x 0.12**

 **=6.6cm**

 **30 x 6.6cm3 36.6cm3**

1. (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**

1. The mass of 20cm3 of wood was found to be 0.4kg. Calculate the density of wood
2. In kg/m3 (2mks)

**Density = mass/volume=0.4/0.00002=2000kg/m3**

1. In g/cm3 (2mks)

**0.4 x 1000=40g/20cm3=2g/cm3**

1. 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**
1. State four apparatus used in physics laboratory. (4mks)
* **Ammeter**
* **Voltmeter**
* **Thermometer**
* **Beam balance**
* **Metre rule**
* **Wires**
* **Lenses**
* **Mirrors**
* **Diodes**
* **Resistors**
* **Bulbs**
* **magnets**
1. Express each of the following volumes in M3
2. 27cm3 (2mks)

**Im3= 1000000cm3**

**? 27cm3**

**0.000027m3**

1. **11000mm3 (2mks)**

**1m3=1000mm3**

**? 11000mm3**

**11cm3**

**1m3=1000000xm3**

**?=11000cm**

**=11000 = 0.011m3**

1. Define volume and its SI units (2mks)
* **It is the amount of space occupied by matter. SI units metre3**
1. 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-3or kg/m3)**