Integrated- Science **Form 3 – D, L & S**

Introduction to Physics **Date: 20/04/2020**

Instructions – Complete all work in notebook and show all working.

Week 6

1. Define the following terms
   - Measurement
   - Units
   - SI units
   - Fundamental quantities
   - Derived quantities

2. Complete the table on fundamental quantities by filling in the SI unit and symbol for each fundamental quantity below

Fundamental Quantities	SI units	Symbols
Length (L)	meter	
Mass (m)		
Time (t)		s
Electric Current (I)		
Temperature (T)		k
Amount of substance		
Luminous intensity (I)		

Table 1: Fundamental quantities, SI units and symbols

Standard form

Standard form is a way of writing down very large or very small numbers easily. $10^3 = 1000$, so $4 \times 10^3 = 4000$. So 4000 can be written as 4×10^3 .

3. Write the following numbers in standard form
   a) 3000
   b) 9300
   c) 760
   d) 0.003
   e) 0.00056
   f) 0.56

4. Convert the following into normal numbers

a) 2×10^3

b) 7.4×10^2

c) 6.5×10^{12}

d) 5.1×10^{-2}

e) 2.5×10^{-4}

Week 7

1. Define the term density

Density is calculated using the general equation : Density = mass ÷ volume or $\rho = m \div v$, where d= density, m = mass, and v= volume.

NB- the SI unit of density is **g/cm^3**

For example:

a) Calculate the density of a 23 grams rock with a volume of 3.2 cm^3.

$\rho = m \div v$

$\rho = 23g \div 3.2\ cm^3$

$= 7.19\ g/cm^3$

Answer = 7.19 g/cm^3

2. A piece of tin has a mass of 16.52 g and a volume of 2. 26 cm^3 . What is the density of the tin?

3. The density of pine is generally about 0.5 g/cm^3. What is the mass of 800 cm^3 piece of pine?

4. What is the volume of 325 g of metal with a density of 9.0 g/cm^3.

5. Differentiate between velocity and acceleration.

6. Complete the table below by filling in the correct units and symbols for the quantities below

Quantity	Unit	Symbol
Distance		
Displacement		
Time		
Speed		
Velocity		
Acceleration		

Table 1: Units and Symbols used in motion equations

7. Explain the two (2) classes of quantities in physics

8. State four (4) examples of each class stated above