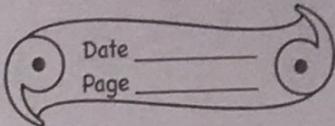


26/09
7.10.21

Homework



► Physical Quantities and measurement.

Q.1 Define Density of a substance?

Ans - The Density of a Substance is defined

as The mass of a unit volume of

that substance. Density = ~~Mass~~ Mass
Volume

$$\text{or } d = \frac{M}{V}$$

Q.2 State The S.I and C.I.S Unit of

Density and how they Related -

Ans - The S.I unit of a ~~Sub~~ Density is Kilogram

(Symbol Kg). And of volume is = Cubic

Centimetre (Symbol m³). $\frac{\text{Kg}}{\text{m}^3}$ There

fore. The S.I unit of density is $\frac{\text{Kg}}{\text{m}^3}$

kg m^{-3} . The C.G.S unit of density

is $\frac{\text{g}}{\text{cm}^3}$ or g cm^{-3} .

* The Relationship Between kg m^{-3} or

g cm^{-3}

$$= 1 \text{ kg} = 100 \text{ g}$$

$$\text{or } 1 \text{ g} = \frac{1}{1000} \text{ kg}$$

$$\text{and } 1 \text{ m}^3 = (100 \text{ cm})^3$$

$$= 100 \times 100 \times 100$$

$$= 1,00,000 \text{ cm}^3$$

$$\text{or } 1 \text{ m}^3 = \frac{1}{1000000} \text{ m}^3$$

$$= \frac{1}{1000000} \text{ kg cm}^{-3} = \frac{1}{1000000} \text{ g cm}^{-3}$$

$$= \frac{1 \text{ kg}}{1000} \\ = \frac{1 \text{ m}^3}{1000000}$$

$$= \frac{1000000 \text{ kg m}^3}{1000}$$

$$= 1,000 \text{ kg m}^3$$

$$= 1 \text{ g cm}^{-3} = 1000 \text{ kg m}^{-3}$$

Q.3 How does density of Water changes when heated from 0 To 4 $^{\circ}\text{C}$ Degree Celsius?

Ans-3 When Water Contracts on heating from 0°C to 4°C and expands on heating above 4°C

$x - x - x - x - x$

