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Revision

Physical Quantities And Measurment

1. Define the term density of a substance? State the SI and the CGS unit of it.

ans Density is defined as the ratio of mass of the object to the volume of the object. The S.I unit of mass is kilogram = kg, and of volume is cubic meter = m^3. There S.I. of density is kg/m^3. The C.G.S. unit of mass is gram = g, and of volume is cubic centimetre = cm^3. Therefore the C.G.S unit of density is g/cm^3 or gcm^{-3}

2. How does the density of water change when heated from 0 to 4 degree celcius? How density will change with temperature?

ans When water is heated from 0°C, its volume decreases because its density increases and you can see this effect upto 4°C. Because the density of ice is maximum at 4°C. Afterwards as the density decreases the volume increases.

3. The mass of 5 l water is 5 kg. Find the water in Gram Per Centimetre Cube?

ans Mass $m = 5\,kg = 5000\,g$

Volume $v = 5$ litre $= 5000\,cm^3$

density $d = \frac{m}{v}$

$d = \frac{5000g}{5000cm^3} = 1\,gcm^{-3}$