Physics

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1) Define the term density of a substance? State the S.I. unit of a ~~substance~~ and the cgs unit of it How they are related.

Ans) The density of a substance is defined as the mass of a unit volum of the substance. Its SI unit is kilogram/metre^3. The C.G.S unit of mass is gram and of volume is cm^3 ... the CGS unit is g/cm^3 or gcm^{-3}.

2) How does the density of water changes when Heated from 0 TO 4 degree °C?

Ans As the temperature of warm water decreases, the water molecules slow down and the density increase. At 4°C the clusters start forming. The molecules are still slowing down and coming closer

together, the molecules be further apard
i.e., water at 4°C the water change when
heated.

(3) How density will change with temprature?

Ans The density of a object can change if either the mass or volume of the object is changed. Fluids, such as water, have a certain density. If the object is more dense then the water, It will sink.

(4) The mass of 5 L of water is 5 kg find the density of water in gram by centimetre cube

Ans (a) Volume of water - V = 5L = 5000 cm^3

(1 Ltr = 1000 cm^3)

Mass of water, M = 5 kg = 5000 g

[1kg = 1000g]

$$D = \frac{M}{V}$$

$$D = \frac{5000\,g}{5000\,cm^3}$$

$$\frac{B}{B}\ g\,cm^3$$

$$= 1\ g\,cm^3$$