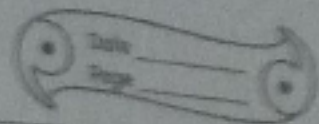


Revision



Chapter-1

Q-1 Define the term density of a substance.

Ans- Density is the mass of a unit volume of a material substance.

Q-2 State the SI and CGS Unit of Density and how they are related?

Ans- The SI unit of density is kg m^{-3} and the C.G.S unit is g cm^{-3} .

Relationship between kg m^{-3} and g cm^{-3} :-

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

$$\text{and } 1 \text{ m}^3 = (100 \text{ cm})^3$$
$$= 100 \times 100 \times 100 \text{ cm}^3$$
$$= 10,00,000 \text{ cm}^3$$

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

$$\text{Now, } 1 \text{ g cm}^{-3} = \frac{1 \text{ g}}{1 \text{ cm}^3}$$

$$= \frac{\frac{1}{1000} \text{ kg}}{\frac{1}{10,000,000} \text{ m}^3} = \frac{10,000,000 \text{ kg m}^3}{1000} = 10000 \text{ kg m}^{-3}$$

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

Q-3 How does the ^{density of} water change when heated from 0°C to 4°C ?

Ans - The density of water decreases and contracts on heating from 0°C to 4°C .

Q-4 How density will change with temperature?

At almost all solids, liquids and gas expands on heating with temperature and its density is increased except water.

Q-5 The mass of 5 l water is 5 kg, find the density of water in grams per centimeter cube

$$\text{Sol } (1 \text{ l} = 1000 \text{ ml}) \\ 5 \text{ l} = 5000 \text{ ml}$$

$$\text{Sol } 1 \text{ ml} = 1 \text{ cm}^3 \\ 5000 \text{ ml} = 5000 \text{ cm}^3$$

$$1 \text{ kg} = (1000 \text{ g})$$

$$\text{So, } 5 \text{ kg} = 5000 \text{ g}$$

$$\text{Now Density} = \frac{\text{Mass}}{\text{Volume}} \\ = \frac{5000 \text{ g}}{5000} \text{ g cm}^{-3}$$

$$\text{Ans} = 1 \text{ g cm}^{-3}$$

Chapter - 2

Q-1 Differentiate between Mass and Weight.

| Ans- | Mass | Weight |
|------|--|---|
| i) | Mass is a of an of object is the matter contained in it. | Weight is the force by which earth attracts a body. |
| ii) | Mass is same everywhere. | Weight isn't same everywhere |
| iii) | S.I unit of Mass is kg (kilogram) | S.I. unit of weight is N (Newton) |

Q-2 How Rest and Motion are related to each other?

Ans- An object can be in motion relative to one set of objects which are at rest relative to some other set of objects.