

Ch-2

Numericals

1) a) The density of air is $1.28 \text{ g/liter}^{-1}$

∴ If it is $\text{g/cm}^3 = 1.28 / 1000 = 0.00128 \text{ g/cm}^3$

b) $1.28 \text{ g/liter} = 1.28 / 1000 = 1.28 \text{ kg/m}^3$

2) Air dimension of a hall

$$100 \times 7 \times 5 = 350 \text{ m}^3$$

Density of air = 1.11 kg/m^3

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

$$m = D \times V$$

$$m = 350 \times 1.11 \text{ kg/m}^3$$

$$388.5 \text{ kg}$$

3) Density of Aluminium = 2.7 g/cm^3

In $\text{kg/m}^3 = 2.7 \times 1000 / 10$
 $= 2.7 \times 100$
 $= 270 \text{ kg/m}^3$

5) Density of Alcohol = 600 kg/m^3
 In $\text{g/cm}^3 = 600/1000$
 0.6 g/cm^3

5) Mass of zinc = 438.6 g

Volume = 86 cm^3

$D = ?$

$D = m/v$

$D = 438.6/86$

$D = 5.1 \text{ g/cm}^3$

6) a) $m = 150 \text{ g}$
 $v = 200 \text{ cm}^3$

$D = m/v$

$150/200$

$= \frac{3 \times 25}{4 \times 25} = \frac{75}{100}$

$D = 0.75 \text{ g/cm}^3$

b) In SI system = 0.75×1000
 $= 750 \text{ kg/m}^3$