

AIW
02/10/2024

NUMERICALS

HOME ASSIGNMENT

c1. a. The density of air = 1.28 g L^{-1}

$$\text{In } \text{g cm}^{-3} = \frac{1.28}{1000} = 0.00128 \text{ g cm}^{-3}$$

b. In $\text{kg m}^{-3} = \frac{1.28}{1000} \times 1000 = 1.28 \text{ kg m}^{-3}$

2. The dimensions of hall = $10 \text{ m} \times 7 \text{ m} \times 5 \text{ m} = 350 \text{ m}^3$

$$\text{Density of air} = 1.1 \text{ kg m}^{-3}$$

$$\text{Mass} = \text{Volume} \times \text{Density}$$

$$= 350 \times 1.1 = 385 \text{ kg}$$

3. Density of Aluminium = 2.7 g cm^{-3}

$$\text{In } \text{kg m}^{-3} = \frac{2.7 \times 1,000}{10} = 2.7 \times 100 = 2,700 \text{ kg m}^{-3}$$

4- Density of alcohol = 600 kg m^{-3}
 In $\text{g cm}^{-3} = \frac{600}{1000} = 0.60 \text{ g cm}^{-3}$

5- Mass of zinc = 438.6 g
 Vol. of zinc = 86 cm^3
 Density: $\frac{\text{Mass}}{\text{Vol.}} = \frac{438.6}{86} = 5.1 \text{ g cm}^{-3}$

6a Mass of wood = 150 g
 Vol. of wood = 200 cm^3
 Density = $\frac{150}{200} = \frac{3}{4} = 0.75 \text{ g cm}^{-3}$

a- C.G.S unit = 0.75 g cm^{-3}

b In S.I. unit = $0.75 \times 1000 = 750 \text{ kg m}^{-3}$