



Exercise 13B

Question 3:

Here, radius (r) = 10.5 cm and height = 60 cm.

$$\begin{aligned}\therefore \text{Volume of the cylinder} &= (\pi r^2 h) \\ &= \left(\frac{22}{7} \times 10.5 \times 10.5 \times 60 \right) \text{cm}^3 \\ &= 20790 \text{ cm}^3\end{aligned}$$

\therefore Weight of the solid cylinder if the material of the cylinder

$$\begin{aligned}\text{Weighs 5 g per cm}^3 &= (20790 \times 5) = 103950 \text{ g} \\ &= \frac{103950}{1000} \quad [\because 1000\text{g} = 1 \text{ kg}] \\ &= 103.95 \text{ kg}\end{aligned}$$

Question 4:

Here, curved surface area = 1210 cm²

$$\text{Diameter} = 20\text{cm} \Rightarrow \text{radius} = \frac{20}{2} = 10\text{cm}$$

$$\therefore \text{Curved surface area of the cylinder} = 2\pi rh$$

$$\Rightarrow 1210 = 2 \times \frac{22}{7} \times 10 \times h$$

$$\Rightarrow h = \left(\frac{1210 \times 7}{2 \times 22 \times 10} \right) \text{cm} = 19.25 \text{ cm}$$

$$\therefore \text{Height} = 19.25 \text{ cm}$$

$$\begin{aligned}\therefore \text{Volume of the cylinder} &= (\pi r^2 h) \\ &= \left(\frac{22}{7} \times 10^2 \times 19.25 \right) \text{cm}^3 \\ &= \left(\frac{22}{7} \times 10 \times 10 \times 19.25 \right) \text{cm}^3 \\ &= 6050 \text{ cm}^3\end{aligned}$$

$$\therefore \text{Volume of the cylinder} = 6050 \text{ cm}^3.$$

***** END *****