Exercise 13B

Question 3:

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

$\therefore$ Volume of the cylinder = $(\Pi r^2 h)$

$$= \left(\frac{22}{7} \times 10.5 \times 10.5 \times 60\right) cm^3$$

$$= 20790\ cm^3$$

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

Weighs 5 g per cm^3 = (20790 x 5) = 103950 g

$$= \frac{103950}{1000} \qquad [\because 1000g = 1\,kg]$$

$$= 103.95\,kg$$

Question 4:

Here, curved surface area = 1210 cm^2

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

$\therefore$ Curved surface area of the cylinder = $2\Pi rh$

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

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

$\therefore$ Height = 19.25 cm

$\therefore$ Volume of the cylinder = $(\Pi r^2 h)$

$$= \left(\frac{22}{7} \times 10^2 \times 19.25\right) cm^3$$

$$= \left(\frac{22}{7} \times 10 \times 10 \times 19.25\right) cm^3$$

$$= 6050 cm^3$$

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

********** END **********