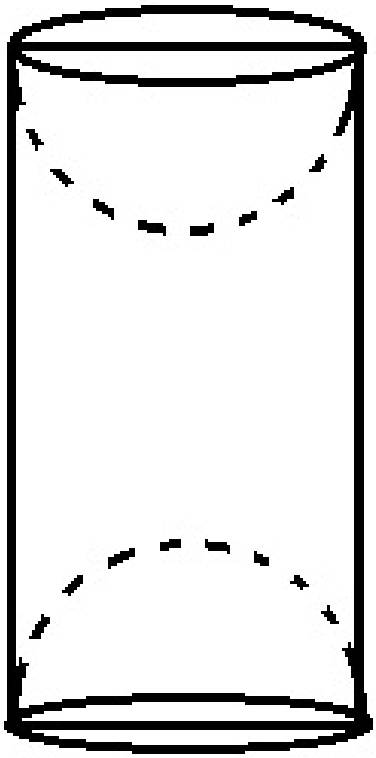
Exercise 19A

Question 3:



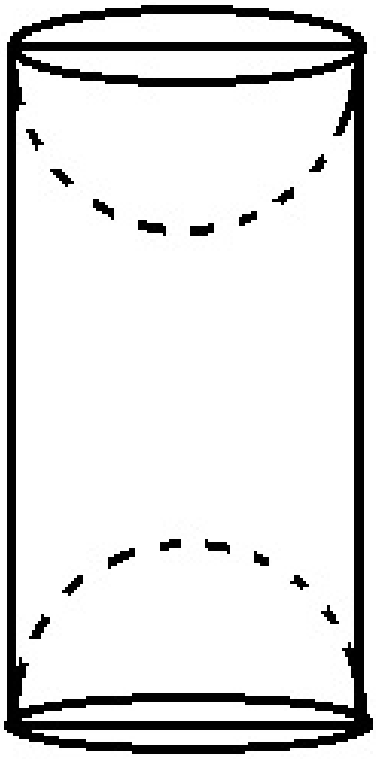
Height of cylinder = 20 cm
And diameter = 7 cm and then radius = 3.5 cm
Total surface area of article
= (lateral surface of cylinder with r = 3.5 cm and h = 20 cm)

$$= \left[2\pi rh + 2 \times \left(2\pi r^2\right)\right] \text{sq.units}$$

$$= \left[\left(2 \times \frac{22}{7} \times \frac{7}{2} \times 20\right) + \left(4 \times \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2}\right)\right] \text{cm}^2$$

$$= (440 + 154)\,\text{cm}^2 = 594\ \text{cm}^2$$

Question 4:



Radius of wooden cylinder = 4.2 cm
Height of wooden cylinder = 12 cm
Lateral surface area

$= 2\pi rh$ sq.cm

$= 2 \times \pi \times 4.2 \times 12 \text{cm}^2$

$= 100.8\pi \text{ cm}^2$

Radius of hemisphere = 4.2 cm
Surface area of two hemispheres

$= 2 \times 2\pi r^2$ sq.unit

$= 4\pi \times 4.2 \times 4.2 \text{ cm}^2$

$= 70.70\pi \text{ cm}^2$

Total surface area = (100.8 + 70.56) π cm^2
= 538.56 cm^2
= 171.36 π
= 171.36 × 22/7 cm^2
= 538.56 cm^2
Further, volume of cylinder = $\pi r^2 h$ = 4.2 × 4.2 × 12 π cm^2
= 211.68 π cm^2
Volume of two hemispheres = 2 × 2/3 πr^3 cu.units
= 4/3 π × 4.2 × 4.2 × 4.2
= 98.784 cm^3
Volume of wood left = (211.68 – 98.784) π
= 112.896 π cm^3
= 112.896 × 22/7 cm^3
= 354.816 cm^3

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