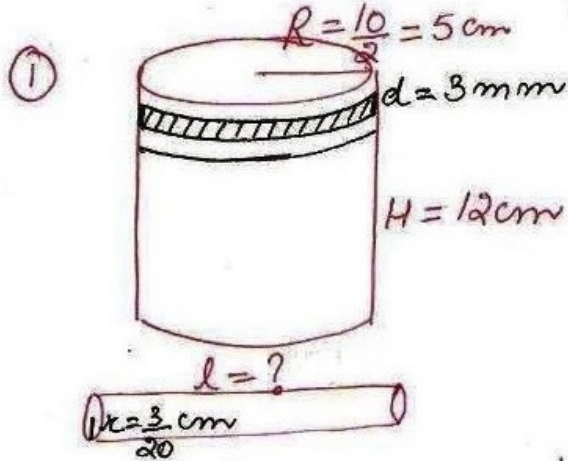


ex 13.5



$$\text{density} = 8.8 \text{ g/cm}^3$$

$$\text{Mass} = V \times D$$

$$= \frac{4356}{7 \times 7} \times 8.8$$

$$= \frac{38332.8}{49}$$

$$= 782.3 \text{ g}$$

no of turns of wire
 $= \frac{\text{height of cylinder}}{\text{diam. of wire}}$

$$= \frac{12}{3/10}$$

$$= 40 \times \frac{10}{3}$$

$$= 40$$

length of wire (l)

$$= 40 \times 2\pi R$$

$$= 80 \times \frac{22}{7} \times 5$$

$$= \frac{8800}{7}$$

$$= 1257.14 \text{ cm}$$

volume of wire used

$$= \pi r^2 h$$

$$= \frac{22}{7} \times \frac{3}{20} \times \frac{3}{20} \times \frac{8800}{7}$$

$$= \frac{4356}{49}$$

$$= 88.89 \text{ cm}^3$$