Surface Area and volume of A Right Circular cylinder Ex 19.2 Q4

Answer :

Given data is as follows:

Lateral Surface Area $= 94.2\ cm^2$

$h = 5cm$

We have to find:

(i) Radius of the base

(ii) Volume of the cylinder

(i) We know that,

Lateral Surface Area $= 2\pi rh$

That is,

$2\pi rh = 94.2$

$2 \times 3.14 \times r \times 5 = 94.2$

$31.4r = 94.2$

$\boxed{r = 3\ cm}$

(ii) Volume of a cylinder $= \pi r^2 h$

$= 3.14 \times 3 \times 3 \times 5$

$\boxed{\text{Volume of the cylinder} = 141.3cm^3}$

Surface Area and volume of A Right Circular cylinder Ex 19.2 Q5

Answer :

Given data is as follows:

Volume of the cylinder = 15.4 litres

$h = 1\text{m}$

We have to find the area of the sheet required to make this cylinder.

We know that 1 liter = 1000 cm^3

Therefore, 15.4 liters = 15400 cm^3

Also, $h = 1\text{m}$

$=100\text{cm}$

We know that,

Volume = $\pi r^2 h$

Therefore,

$\pi r^2 h = 15400$

$$\frac{22}{7} \times r^2 \times 100 = 15400$$

$$r = 7cm$$

Now, using this radius we have to find the Total Surface Area.

Total Surface Area = $2\pi rh + 2\ \pi r^2$

$$=2 \times \frac{22}{7} \times 7 \times 100 + 2 \times \frac{22}{7} \times 7 \times 7$$

Total surface area=4708cm^2

Surface Area and volume of A Right Circular cylinder Ex 19.2 Q6

Answer :

Given data is as follows:

Diameter = 7cm

$h = 4\text{cm}$

Number of patients = 250

We have to find the total volume of soup required to serve all 250 patients.

Given is the diameter, which is equal to 7cm. Therefore, $r = \frac{7}{2}\text{cm} = 3.5\,\text{cm}$

Volume of soup given to each patient = $\pi r^2 h$

$$= \frac{22}{7} \times 3.5 \times 3.5 \times 4$$

$= 154\ \text{cm}^3$

Volume of soup for all 250 patients = 154 × 250

$=38500\ \text{cm}^3$

We know that, 1000 cm^3 = 1 litre.

Therefore,

Volume of soup for all 250 patients = 38.5 litres

Volume of soup for all 250 patients = 38.5 litres

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