

16/1/2022
Saturday

SURFACE AREA VOLUME:

SESSION - 8

①. ~~25.63~~ = $\frac{4}{3}\pi r^3 + \pi r^2 h$

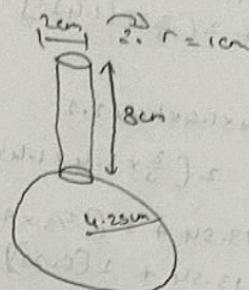
$\Rightarrow \frac{4}{3}\pi (4.25)^3 + \pi (1)^2 (8)$

$\Rightarrow \frac{4}{3} \times 3.14 \times 4.25 \times 4.25 \times 4.25 + 3.14 \times 8$

$\Rightarrow \frac{4}{3} \times 56.72 + 25.12$

$\Rightarrow 75.63 + 25.12$

$\Rightarrow \boxed{100.75}$



②



Volume of cone + Volume of hemisphere

$= \frac{1}{2}\pi r^2 h + \frac{2}{3}\pi r^3$

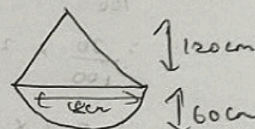
$= \frac{1}{2} \times 3.14 \times (9)^2 \times 120 + \frac{2}{3} \times 3.14 \times (9)^3$

$= \frac{1}{2} \times 3.14 \times 81 \times 120 + \frac{2}{3} \times 3.14 \times 729$

$= 10173.6 + 1526.04$

$= \boxed{11699.64}$

$\boxed{11702.2}$



$$\begin{array}{r} 3 \overline{) 11729} \\ 66 \\ \underline{12} \\ 12 \\ \underline{0} \end{array}$$

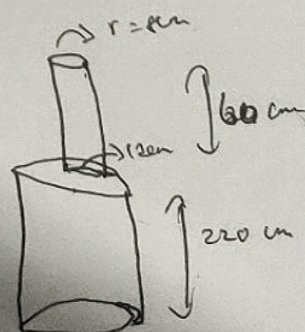
③. Volume of Cylinder₁ + Volume of Cylinder₂

$\Rightarrow \pi (8)^2 60 + \pi (12)^2 220$

$\Rightarrow 3.14 (64) (60) + 3.14 (144) (220)$

$\Rightarrow 12057.6 + 99475.2$

$\Rightarrow \boxed{111532.8}$



4.

$$V_3 = \pi(1.4)^2(2.2) + 2\left[\frac{2}{3}\pi(1.4)^3\right]$$

$$= 3.4 \times 1.4 \times 1.4 \times 2.2$$

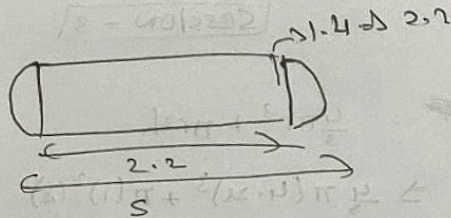
$$+ 2\left[\frac{2}{3} \times 3.4 \times 1.4 \times 1.4 \times 1.4\right]$$

$$= 13.54 + 2\left[\frac{2}{3} \times 9.33\right]$$

$$= 13.54 + 2[6.22]$$

$$= 13.54 + 12.44$$

$$= \boxed{25.98}$$



$$V_{\text{cup}} = \frac{30}{100} \times V_3$$

$$= \frac{30}{100} \times 25.98$$

$$\Rightarrow 0.3 \times 25.98$$

$$= \boxed{7.794}$$

$$\text{Total Syrup} \Rightarrow 45 \times V_{\text{cup}}$$

$$\Rightarrow 45 \times 7.794$$

$$\Rightarrow \boxed{350.73}$$