

# Assignment-1

AI21BTECH11023

April 4, 2022

Given,

Radius of cylinder(R)=3 cm

Height of the cylinder(H)= 7 cm

Height of the cone removed(h)=3 cm

Volume of cylinder ( $V_1$ )= $\pi R^2 H$

Volume of Cone ( $V_2$ )= $\frac{1}{3}\pi R^2 h$

Volume of Hemisphere ( $V_3$ )= $\frac{2}{3}\pi R^3$

According to question Hemisphere, Cone are removed from Cylinder

$\therefore$  remaining volume =  $V_1 - V_2 - V_3$

$= \pi R^2 H - \frac{1}{3}\pi R^2 h - \frac{2}{3}\pi R^3$

Substituting the values above we get,

$\approx 113.142 \text{ cm}^3$

Table 1: Variables used

Radius of cylinder(same as cone and hemisphere)	R
Height of cone removed	h
Height of cylinder	H
Volume of cylinder	$V_1$
Volume of cone	$V_2$
Volume of hemisphere	$V_3$