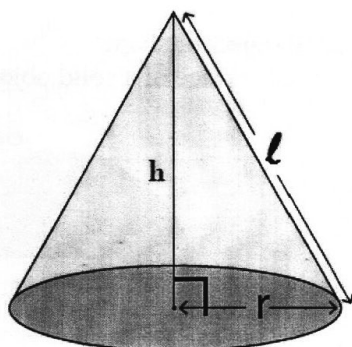


CHAPTER-11

**SURFACE AREAS AND VOLUMES**

**MIND MAP**



Cone

$$\text{Slant height of cone } l = \sqrt{h^2 + r^2}$$

$$\text{Curved Surface area of cone} = \pi r l$$

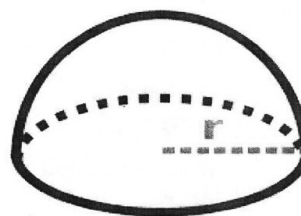
$$\begin{aligned} \text{Total Surface area of cone} &= \pi r l + \pi r^2 \\ &= \pi r(l + r) \end{aligned}$$

$$\text{Volume of cone} = \frac{1}{3} \pi r^2 h$$

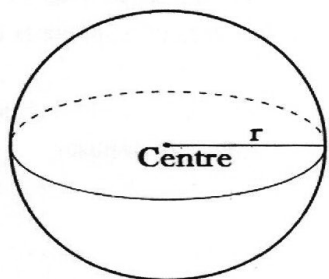
$$\text{Total Surface area of hemisphere} = 3\pi r^2$$

$$\text{Curved Surface area of hemisphere} = 2\pi r^2$$

$$\text{Volume of hemisphere} = \frac{2}{3} \pi r^3$$



Hemisphere



Sphere

$$\text{Total Surface area of Sphere} = 4\pi r^2$$

$$\text{Volume of Sphere} = \frac{4}{3} \pi r^3$$