7. MENSURATION

Learning Outcomes

- ❖ To determine the surface area and volume of cylinder, cone, sphere, hemisphere and frustum.
- ❖ To compute volume and surface area of combined solids.
- ❖ To solve problems involving conversion of solids from one shape to another with no change in volume.

Important Points and Notes

- We always consider $\pi = \frac{22}{7}$ unless otherwise stated.
- The term 'surface area' refers to 'total surface area'.
- A right circular cylinder is a solid generated by the revolution of a rectangle about one of its sides as axis.
- A right circular cone is a solid generated by the revolution of a right angled triangle about one of the sides containing the right angle as axis.
- A sphere is a solid generated by the revolution of a semicircle about its diameter as axis.
- For finding the C.S.A. and T.S.A. of a hollow sphere, the formulla for finding the surface area of a sphere can be used.
- When a cone ABC is cut through by a plane parallel to its base, the portion of the cone DECB between the cutting plane and the base is called a frustum of the cone.