

**SECTION A 1 mark each**

- Q1. The Curved Surface area of a frustum = \_\_\_\_\_ where  $l$  = \_\_\_\_\_.
- Q2. If the edge of a cube is decreased by 50% the surface area is decreased by \_\_\_\_\_%.
- Q3. The ratio of radii of two hemispheres is 1:5. Find the ratio of their volumes.
- Q4. The surface area of a sphere of radius  $r/4$  is \_\_\_\_\_
- Q5. The ratio of radii of two cylinders is 1:4 and ratio of their heights is 16:1. Find ratio of their volumes.

**SECTION B 2 marks each**

- Q6. 5 cubes of edge 9cm each are joined edge to edge. Find the surface area of resulting cuboid.
- Q7. A solid is in the form of a cylinder with hemispherical ends. The total height of the solid is 58 cm and the diameter of the cylinder is 28 cm. Find the total surface area of the solid.

**SECTION C 3 marks each**

- Q8. A solid toy is in the form of a hemisphere surmounted by a right circular cone. Height of the cone is 2 cm and the diameter of the base is 4 cm. If a right circular cylinder circumscribes the toy, find how much more space it will cover than the toy.
- Q9. A gulab jamun when completely ready for eating contains sugar syrup up to about 40% of its volume. Find how much syrup would be found in 100 gulab jamuns shaped like a cylinder with two hemispherical ends. if the total length of each gulab jamun is 6 cm and its diameter is 2.8 cm. Also find the cost of syrup at Rs 10 per 100 cubic cm
- Q10. The height of a cone is 30 cm. A small cone is cut off at the top by a plane parallel to the base. If its volume be  $1/27$  of the volume of the given cone, at what height above the base is the section made?

**SECTION D 6 marks each**

- Q11. A right triangle, whose sides are 3 cm and 4 cm, is made to revolve about its hypotenuse. Find the volume of the double cone so formed.
- Q12. An inverted conical vessel of radius 6 cm and height 8 cm is completely filled with water. A sphere is lowered into the water and its size is such that, when it touches the sides, it is just immersed. What fraction of water overflows?