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Section A MCQ – 1 Mark Each

- Q.1 Given a cuboid of dimensions $l=5$ cm, $b = 4$ cm, $h = 3$ cm. How many cubes of 1 cm side can be cut out of it?
- (a) 12 (b) 6 (c) 4 (d) 3
- Q.2 If surface area of a sphere is $2704 \pi \text{cm}^2$ then its radius is equal to
- (a) 12 cm (b) 13 cm (c) 9 cm (d) none of these
- Q.3 Ratio of the volume of a cone and a cylinder of same radius of base and same height is
- (a) 1 : 1 (b) 1 : 2 (c) 1 : 3 (d) 1 : 4
- Q.4 Number of surfaces of the same area in a cube are
- (a) 6 (b) 2 (c) 1 (d) None of these

Section B – 2 Mark Each

- Q.5 100 circular plates, each of radius 7 cm and thickness $\frac{1}{2}$ cm , are placed one above another to form a solid right circular cylinder. Find the total surface area and the volume of the cylinder so formed.

Section C – 3 Mark Each

- Q.6 If h , c and V are height, curved surface area and volume of a cone respectively, prove that $3\pi Vh^3 - c^2h^2 + 9V^2 = 0$.
- Q.7 Three cubes of metal whose edges are in the ratio 3 : 4 : 5 are melted down into a single cube whose diagonal is $12\sqrt{3}$ cm . Find the edges of the three cubes.

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Section D – 4 Mark Each

- Q.8 A rectangular water reservoir is 10.8 m by 3.75 m at the base. Water flows into it at the rate of 18 m/s through a pipe having the cross section $7.5 \text{ cm} \times 4.5 \text{ cm}$. Find the height to which the water will rise in the reservoir in 15 minutes.
- Q.9 It costs Rs. 2200 to paint the inner curved surface of a cylindrical vessel 10m deep. If the cost of painting is at the rate of Rs. 20 per m^2 . Find:
- (a) Inner curved surface area of the vessel.
 - (b) Radius of the base.
 - (c) Capacity of the vessel.

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