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SURFACE AREAS AND VOLUMES

ASSIGNMENT NO. 7

- 1. Curved surface area of a right circular cylinder is 4.4 m². If the radius of the base of the cylinder is 0.7 m, find its height.
- 2. A joker's cap is in the form of a right circular cone of base radius 7 cm and height 24 cm. Find the area of the sheet required to make 10 such caps.
- 3. A hemispherical bowl is made of steel 0.25 cm thick. The inner radius of the bowl is 5 cm. Find the outer curved surface area of the bowl.
- 4. A soft drink is available in two packs:
- a. A tin can with a rectangular base of length 5 cm and width 4 cm, having a height of 15 cm and
- b. A plastic cylinder with circular base of diameter 7 cm and height 10 cm. Which container has greater capacity and by how much? $\left(Take \ \pi = \frac{22}{7}\right)$
- 5. The diameter of roller is 1.5 m long is 84 cm. If it takes 100 revolutions to level a playground, find the cost of levelling the ground at the rate of 50 paise per square metre.
- 6. The cost of painting the total outside surface of a closed cylindrical oil tank at 60 paise per sq. dm is Rs. 237.60. The height of the tank is 6 times the radius of the base of the tank. Find its volume correct to two decimal places.
- 7. A teak wood log is cut first in the form of a cuboid of length 2.3 m, width 0.75 m and of a certain thickness. Its volume is1.104 m³. How many rectangular planks of size $2.3 \text{ m} \times 0.75 \text{ m} \times 0.04 \text{ m}$ can be cut from the cuboid?
- 8. Three cubes each of side 3 cm are joined end to end. Find the surface area of the resultant cuboid.
- 9. A military tent is in the form of a circular cone of vertical height 6 m, the diameter of the base being 7 m. If 12 soldiers can sleep in it, find the average cubic metre of air space required per soldier.
- 10. The volume of a cylinder is 448 π cubic cm and the height is 7 cm. Find its total surface area.

- 11.A hemispherical bowl is made of steel 0.25 cm thick. The inner radius of the bowl is 5 cm. Find the outer curve surface area of the bowl. (*Take* $\pi = 3.14$)
- 12.A spherical iron shell with 8 cm external diameter weighs $1860\frac{4}{7}$ gms. Find the thickness of the shell if the density of the metal is 12 g/cm³.
- 13. The diameter of a roller is 84 cm and its length is 120 cm. It takes 500 complete revolutions to move once over to level a playground and find the area of the playground in square metres.