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## SURFACE AREAS AND VOLUMES

ASSIGNMENT NO. 7

1. Curved surface area of a right circular cylinder is $4.4 \mathrm{~m}^{2}$. 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? (Take $\pi=\frac{22}{7}$ )
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 is $1.104 \mathrm{~m}^{3}$. How many rectangular planks of size $2.3 \mathrm{~m} \times 0.75 \mathrm{~m} \times 0.04 \mathrm{~m}$ 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 $448 \pi$ 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 $12 \mathrm{~g} / \mathrm{cm}^{3}$.
10. 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.
