

Comprehensive Test Series-04

Surface areas and volumes

TIME: 1.5 hr.

MM: 35

General Instructions:

- All Questions are compulsory.
 - Each question carries 3 marks
 - Use of calculator is not permitted.
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- Q.1 The floor of a rectangular hall has a perimeter 250 m. If the cost of painting the four walls at the rate of Rs. 10 per m^2 is Rs. 15000, find the height of the hall.
- Q.2 A small indoor greenhouse (herbarium) is made entirely of glass panes (including base) held together with tape. It is 30 cm long, 25 cm wide and 25 cm high.
(i) What is the area of the glass?
(ii) How much of tape is needed for all the 12 edges?
- Q.3 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. Find the area of the playground in m^2 .
- Q.4 Curved surface area of right circular cylinder is $4.4 m^2$. If the radius of the base of the cylinder is 0.7 m, find its height.
- Q.5 The height of a cone is 16 cm and its base radius is 12 cm. Find the curved surface area and the total surface area of the cone (Use $\pi = 3.14$)
- Q.6 Curved surface area of a cone is $308 cm^2$ and its slant height is 14 cm. Find (i) radius of the base and (ii) total surface area of the cone.
- Q.7 What length of tarpaulin 3 m wide will be required to make conical tent of height 8 m and base radius 6 m? Assume that the extra length of material that will be required for stitching margins and wastage in cutting is approximately 20 cm (Use $\pi = 3.14$)
- Q.8 The slant height and base diameter of a conical tomb are 25 m and 14 m respectively. Find the cost of white-washing its curved surface at the rate of Rs 210 per $100m^2$.
- Q.9 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.
- Q.11 A hemispherical bowl made of brass has inner diameter 10.5 cm. Find the cost of tin-plating it on the inside at the rate of Rs. 16 per $100cm^2$.
- Q.12 Find the radius of a sphere whose surface area is $154 cm^2$.