

Model Question Paper**Mensuration - Part I**

10th Standard

MathsReg.No. :

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I. Answer all the questions.

II. Use blue pen only.

III. Question number 15 is compulsory.

Time : 01:00:00 Hrs

Total Marks : 40

5 x 1 = 5

Part-A

- 1) The curved surface area of a right circular cylinder of radius 1 cm and height 1 cm is equal to
(a) $\pi \text{ cm}^2$ (b) $2\pi \text{ cm}^2$ (c) $3\pi \text{ cm}^3$ (d) 2 cm^2
- 2) The total surface area of a solid right circular cylinder whose radius is half of its height h is equal to
(a) $\frac{3}{2}\pi h$ sq. units (b) $\frac{2}{3}\pi h^2$ sq. units (c) $\frac{3}{2}\pi h^2$ sq. units (d) $\frac{2}{3}\pi h$ sq. units
- 3) Base area of a right circular cylinder is 80 cm^2 . If its height is 5 cm, then the volume is equal to
(a) 400 cm^3 (b) 16 cm^3 (c) 200 cm^3 (d) $\frac{400}{3} \text{ cm}^3$
- 4) If the total surface area of a solid right circular cylinder is $200\pi \text{ cm}^2$ and its radius is 5 cm, then the sum of its height and radius is
(a) 20cm (b) 25cm (c) 30cm (d) 15cm
- 5) The curved surface area of a right circular cylinder whose radius is a units and height is b units, is equal to
(a) $\pi a^2 b$ sq.cm (b) $2\pi ab$ sq.cm (c) 2π sq.cm (d) $2sq.$ cm

Part-B

5 x 2 = 10

- 6) A solid right circular cylinder has radius 7 cm and height 20 cm. Find its (i) curved surface area and (ii) total surface area. (Take $\pi = \frac{22}{7}$)
- 7) Radius and slant height of a solid right circular cone are 35 cm and 37 cm respectively. Find the curved surface area and total surface area of the cone. (Take $\pi = \frac{22}{7}$)
- 8) A hollow sphere in which a circus motorcyclist performs his stunts, has an inner diameter of 7m. Find the area available to the motorcyclist for riding. (Take $\pi = \frac{22}{7}$)
- 9) Total surface area of a solid hemisphere is 675π sq.cm. Find the curved surface area of the solid hemisphere.
- 10) The thickness of a hemispherical bowl is 0.25 cm. The inner radius of the bowl is 5 cm. Find the outer curved surface area of the bowl. (Take $\pi = \frac{22}{7}$)

Part-C

5 x 5 = 25

- 11) If the total surface area of a solid right circular cylinder is 880 sq.cm and its radius is 10 cm, find its curved surface area. (Take $\pi = \frac{22}{7}$)
- 12) The ratio between the base radius and the height of a solid right circular cylinder is 2 : 5. If its curved surface area is $\frac{3960}{7} \text{ sq.cm}$, find the height and radius. (use $\pi = \frac{22}{7}$)
- 13) The diameter of a road roller of length 120 cm is 84 cm. If it takes 500 complete revolutions to level a playground, then find the cost of levelling it at the cost of 75 paise per square metre. (Take $\pi = \frac{22}{7}$)
- 14) The internal and external radii of a hollow cylinder are 12 cm and 18 cm respectively. If its height is 14 cm, then find its curved surface area and total surface area. (Take $\pi = \frac{22}{7}$)
- 15) a) Let O and C be the centre of the base and the vertex of a right circular cone. Let B be any point on the circumference of the base. If the radius of the cone is 6 cm and if $\angle OBC = 60^\circ$, then find the height and curved surface area of the cone.

(OR)

- b) A sector containing an angle of 120° is cut off from a circle of radius 21 cm and folded into a cone. Find the curved surface area of the cone. (Take $\pi = \frac{22}{7}$)
