

Model Question Paper
Mensuration - Part IV

10th Standard

Maths

Reg.No. :

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I. Answer all the questions.

II. use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 40

5 x 1 = 5

Part-A

- 1) The total surface area of a solid hemisphere whose radius is a units, is equal to
(a) $2\pi a^2$ sq.units (b) $3\pi a^2$ sq.units (c) $3\pi a$ sq.units (d) $3a^2$ sq.units.
- 2) If the surface area of a sphere is 100π cm², then its radius is equal to
(a) 25cm (b) 100cm (c) 5cm (d) 10cm
- 3) If the surface area of a sphere is 36π cm², then the volume of the sphere is equal to
(a) 12π cm³ (b) 36π cm³ (c) 72π cm³ (d) 108π cm³
- 4) If the total surface area of a solid hemisphere is 12π cm² then its curved surface area is equal to
(a) 6π cm² (b) 24π cm² (c) 36π cm² (d) 8π cm²
- 5) If the radius of a sphere is half of the radius of another sphere, then their respective volumes are in the ratio
(a) 1 : 8 (b) 2 : 1 (c) 1 : 2 (d) 8 : 1

Part-B

5 x 2 = 10

- 6) Volume of a hollow sphere is $\frac{11352}{7}$ cm³. If the outer radius is 8 cm, find the inner radius of the sphere. (Take $\pi = \frac{22}{7}$)
- 7) Find the volume of a solid cylinder whose radius is 14 cm and height 30 cm.
- 8) A patient in a hospital is given soup daily in a cylindrical bowl of diameter 7 cm. If the bowl is filled with soup to a height of 4 cm, then find the quantity of soup to be prepared daily in the hospital to serve 250 patients?
- 9) Volume of a solid cylinder is 62.37 cu.cm. Find the radius if its height is 4.5 cm.
- 10) The radii of two right circular cylinders are in the ratio 2 : 3. Find the ratio of their volumes if their heights are in the ratio 5 : 3.

Part-C

5 x 5 = 25

- 11) Radius and slant height of a solid right circular cone are in the ratio 3 : 5. If the curved surface area is 60π sq.cm, then find its total surface area.
- 12) Find the curved surface area and total surface area of a hollow hemisphere whose outer and inner radii are 4.2 cm and 2.1 cm respectively
- 13) The inner curved surface area of a hemispherical dome of a building needs to be painted. If the circumference of the base is 17.6 m, find the cost of painting it at the rate of Rs5 per sq.m.
- 14) If the curved surface area of a right circular cylinder is 704 sq.cm, and height is 8 cm, find the volume of the cylinder in litres. (Take $\pi = \frac{22}{7}$)
- 15) A hollow cylindrical iron pipe is of length 28 cm. Its outer and inner diameters are 8 cm and 6 cm respectively. Find the volume of the pipe and weight of the pipe if 1 cu.cm of iron weighs 7 gm. (Take $\pi = \frac{22}{7}$)
