

Time : 40 Min.

Max. Marks : 20

I. Answer the following

 $3 \times 4 = 12M$

1. Prove that the parallelogram circumscribing a circle is a rhombus.
2. Prove that the lengths of the tangents drawn from an external point to a circle are equal.
3. A wooden article was made by scooping out a hemisphere from each end of a solid cylinder.

If the height of the cylinder is 10 cm, and its base is of radius 3.5 cm, find the total surface area of the article?

II. Answer the following

 $2 \times 3 = 6 M$

4. Consider the following situations. In each find out whether you need volume or area and why?

- 1) Quantity of water inside a bottle.
- ii) Canvas needed for making a tent.
- iii) Number of bags inside the lorry.
- iv) Number of match sticks that can be put in the match box.

5. The length of the tangent from a point A at distance 5 cm from the centre of the circle is 4 cm.

Find the radius of the circle.

6. Three solid metallic spherical balls of radii 3 cm, 4 cm and 5 cm are melted into a single spherical ball.

Find its radius?

III. Answer the following

 $2 \times 1 = 2 M$

7. Identify the correct relation.

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P. LSA of cylinder 1) $\pi r^2 h$ Q. TSA of cylinder 2) $2\pi rh$ R. Volume of cylinder 3) $2\pi rh(r+h)$

A. P - 1 B. P - 2 C. P - 3 D. P - 1

Q - 2 Q - 3 Q - 2 Q - 3

R - 3 R - 1 R - 1 R - 2

8. Draw a circle and two lines parallel to a given line such that one is a tangent and the other a secant to the circle.

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