

Exercise-16d

Ques 1 A - - - - - wall?

Ans 1 Diameter = $\frac{31}{2} \text{ m} = \frac{7}{2} \text{ m}$

Radius = $\frac{7}{2 \times 2} = \frac{7}{4} \text{ m}$

Height = 6

L.S.A = $2\pi rh$

$\frac{2 \times 22}{7} \times \frac{7}{4} \times 6 = 66 \text{ m}^2$

Volume = $\pi r^2 h$

$\frac{22}{7} \times \frac{7}{4} \times \frac{7}{4} \times 6 = \frac{231}{4} = 57.75 \text{ m}^3$

Ques 2 A - - - - - metre?

Ans 2 $D = 7 \text{ m}$

$R = \frac{7}{2} \text{ m}$ $h = 9 \text{ m}$

T.S.A = $2\pi r (h+r)$

$2 \times \frac{22}{7} \times \frac{7}{2} (9 + \frac{7}{2})$

$22 (18 + 7)$

$\frac{22 \times 25}{1} = 550$

$$T.S.A = 275 \text{ m}^2$$

$$\text{cost of painting} = 275 \times 25 = \text{₹ } 9625$$

Ques 3. In a

Ans 3. $D = 3 \text{ m}$

$$R = \frac{3}{2}$$

$$H = 7 \text{ m}$$

$$\text{Volume} = \pi r^2 h$$

$$\frac{22}{7} \times \frac{3}{2} \times \frac{3}{2} \times 7$$

$$\frac{99}{2}$$

$$1 \text{ m}^3 = 1 \text{ Kl}$$

$$V = 49.5 \text{ Kl}$$

Ques 4. A well - - - - - m²

$$\text{Diameter} = 4 \text{ m}$$

$$\text{Radius} = 2 \text{ m}$$

$$\text{Height} = 10 \text{ m}$$

Quantity of earth = Volume of well

$$\pi r^2 h$$

$$\frac{22}{7} \times 2 \times 2 \times 10$$

$$\frac{880}{7} = 125.71 \text{ m}^2$$

$$\text{C.S. A} = 2\pi r h$$

$$2 \times \frac{22}{7} \times 2 \times 10 = \frac{880}{7} = 125.71 \text{ m}^2$$

$$\text{Cost} = 125.71 \times 5$$

$$= ₹ 628.55$$

Ques 5. A pillar - - - - - the pillar.

Ans. Radius = 21 cm

Height = 3 m = 300 cm

$$\text{C.S. A} = 2\pi r h$$

$$\frac{2 \times 22}{7} \times 21 \times 300$$

$$39600 \text{ cm}^2$$

$$\text{Volume} = \pi R^2 h$$

$$\frac{22}{7} \times 21 \times 21 \times 300$$

$$415800 \text{ cm}^3$$

Ques 6

A

$$\text{Outer Diameter} = 8 \text{ cm}$$

$$\text{Radius} = 4 \text{ cm}$$

$$\text{Inner Diameter} = 6 \text{ cm}$$

$$\text{Radius} = 3 \text{ cm}$$

$$\text{Height} = 2.1 \text{ m}$$

$$210 \text{ cm}$$

$$\text{Outer volume} = \pi R^2 h$$

$$\frac{22}{7} \times 4 \times 4 \times 210$$

$$10560 \text{ cm}^3$$

$$\text{Inner volume} = \pi R^2 h$$

$$\frac{22}{7} \times 3 \times 3 \times 210$$

$$5940 \text{ cm}^2$$

$$\text{Volume of Metal} = 10560 - 5940$$
$$4620 \text{ cm}^3$$

Ques: The ----- diameter

$$\text{Volume of Rod} = \pi r^2 h$$
$$\text{Height} = 100 \text{ cm}$$

$$\pi r^2 h = 1386$$

$$\frac{22}{7} \times r^2 \times 100 = 1386$$

$$r^2 = \frac{1386 \times 7}{22 \times 100}$$

$$\frac{441}{100}$$

$$\text{Radius} = \sqrt{\frac{441}{100}}$$

$$\text{Radius} = 2.1 \text{ cm}$$

$$\text{Diameter} = 2.1 \times 2$$

$$4.2 \text{ cm}$$

Ques 8 A rectangle

$$\text{Length} = \text{circumference} = 44 \text{ cm}$$

$$\text{Breadth} = \text{Height} = 16 \text{ cm}$$

$$\text{Circumference} = 44$$

$$2\pi r = 44$$

$$2 \times \frac{22}{7} \times r = 44$$

$$\frac{44}{2} r = 44$$

$$r = \frac{44 \times 7}{44}$$

$$r = 7 \text{ cm}$$

$$\text{Volume} = \pi r^2 h$$

$$\frac{22}{7} \times 7 \times 7 \times 16$$

$$2464 \text{ cm}^3$$

Ques 9 A tank

cylinder

$$\text{Height} = 48 \text{ cm}$$

$$\text{Base Area} = 616 \text{ m}^2$$

$$\text{Area} = \pi r^2$$

$$\pi r^2 = 616$$

$$\frac{22}{7} \times r^2 = 616$$

$$r^2 = \frac{616 \times 7}{22}$$

$$r^2 = 196$$

$$r = \underline{14 \text{ cm}}$$

$$\text{L.S.A} = 2\pi r h$$

$$\frac{2 \times 22}{7} \times 14 \times 48$$

$$4224 \text{ m}^2$$

$$\text{Volume} = \pi r^2 h$$

$$\frac{22}{7} \times 14^2 \times 48$$

$$29568 \text{ m}^3$$

Ques 10. A cylindrical - - - - - 7920 m²

Ans 10. Length = 2 m

Diameter = 84 cm

$$\text{Radius} = \frac{84}{2} = 42 \text{ cm} = \frac{42}{100}$$

$$\text{C.S.A} = 2\pi r h$$

$$\frac{2 \times 22}{7} \times \frac{42}{100} \times 2$$

$$C.S.A = \frac{132}{25}$$

$$\text{No of revolution} = \frac{\text{Area}}{C.S.A}$$

$$\frac{60}{7920 \times 25} = 1500 \text{ revolutions}$$

1321

Ques 11. The circumference --- cylinder

Ans 11. Circumference = 176 cm

Height = 1 m = 100 cm

$$2\pi r = 176$$

$$2 \times \frac{22}{7} \times r = 176$$

$$\frac{44}{7} \times r = 176$$

$$r = \frac{176 \times 7}{44}$$

Radius = 28 cm

$$L.S.A = 2\pi r h = 14$$

$$2 \times \frac{22}{7} \times 28 \times 100$$

$$17600 \text{ cm}^2$$

Ques! Find

a) Length
Breadth
Height

Volume

b) Length
Breadth
Height

c) Length
Breadth
Height