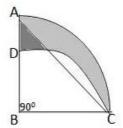


Question 55:



In
$$\triangle$$
ABC, \angle B = 90°, AB = 48 cm, BC = 14 cm

$$AC^{2} = AB^{2} + AC^{2} = 48^{2} + 14^{2}$$
$$= 2304 + 196 = 2500$$

Area of
$$\triangle ABC = \frac{1}{2} \times 48 \times 14 \text{ cm}^2 = 336 \text{ cm}^2$$

Area of semi-circle APC

$$= \frac{1}{2}\pi r^2 = \frac{1}{2} \times \frac{22}{7} \times 25 \times 25 \text{ cm}^2$$
$$= \frac{11 \times 625}{7} \text{ cm}^2 = \frac{6875}{7} \text{ cm}^2$$
$$= 982.14 \text{ cm}^2$$

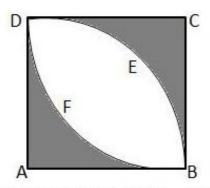
Area of quadrant BDC with radius 14 cm

$$= \frac{1}{4} \times \frac{22}{7} \times 14 \times 14 \text{ cm}^2 = 154 \text{ cm}^2$$

Shaded area = Area of ∆ABC + Area of semi-circle APC - Area of quadrant BDC

=
$$(336 + 982.14 - 154)$$
cm²
= $(1318.14 - 154)$ cm² = 1164.14 cm²

Question 56:



Radius of quadrant ABED = 16 cm

Its area =
$$\frac{1}{4} \times \frac{22}{7} \times 16 \times 16 \text{ cm}^2$$

Area of ABD

$$= \frac{1}{2} \times 16 \times 16 \text{ cm}^2$$

$$= 128 \text{ cm}^2$$

Area of segment DEB

$$= \frac{11 \times 128}{7} - 128$$
$$= 128 \left(\frac{11 - 7}{7}\right) \text{cm}^2 = \frac{128 \times 4}{7} \text{cm}^2 = \frac{512}{7} \text{cm}^2$$

Area of segment DFB = $\frac{512}{7}$ cm²

Total area of segments =
$$2 \times \frac{512}{7}$$
 cm² = $\frac{1024}{7}$

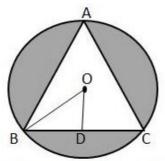
Shaded area = Area of square ABCD - Total area of segments

$$= \left(16 \times 16 - \frac{1024}{7}\right) \text{cm}^2$$

$$= \left(256 - \frac{1024}{7}\right) \text{cm}^2 = \frac{1792 - 1024}{7} \text{cm}^2$$

$$= \frac{768}{7} \text{cm}^2 = 109.7 \text{ cm}^2$$

Question 57:



Radius of circular table cover = 70 cm

$$\therefore \text{ Area of the circular cover} = \pi r^2 = \frac{22}{7} \times 70 \times 70 \text{ cm}^2 = 15400 \text{ cm}^2$$

$$\ln \Delta$$
 BOD, \angle D = 90°, \angle OBD = 30°

$$\frac{BD}{OB} = \cos 30^{\circ} = \frac{\sqrt{3}}{2}$$

$$=70\times\frac{\sqrt{3}}{2}cm$$

$$\Rightarrow$$
 BC = 2BD = $2 \times 35\sqrt{3} = 70\sqrt{3}$

Area of ABC =
$$\frac{\sqrt{3}}{4} \times a^2 = \frac{\sqrt{3}}{4} \times 70\sqrt{3} \times 70\sqrt{3}$$

[∵ ∆ABC is equilateral]

$$= \frac{4900 \times 3 \times \sqrt{3}}{4} \text{ cm}^2 = 1225 \times 3 \times \sqrt{3}$$

$$=3675\sqrt{3} \text{ cm}^2 = 6365.1 \text{ cm}^2$$

Shaded area = Area of circle - Area of △ ABC

$$= (15400 - 6365.1) \text{ cm}^2 = 9034.9 \text{ cm}^2$$

******* END ******