

## CHAPTER-11 | AREAS RELATED TO CIRCLES

QUIZ  
PART-03

1. The area grazed by a horse tied to a peg at one corner of a square field (side 15 m, rope 5 m) is:

- A. 19.625 m<sup>2</sup>  
B. 20.4375 m<sup>2</sup>  
C. 58.875 m<sup>2</sup>  
D. 78.5 m<sup>2</sup> (A)

*Explanation:* Area =  $\frac{60}{360} * \pi * 5^2 = 19.625 \text{ m}^2$

2. The increase in grazing area when the rope length is 10 m:

- A. 58.875 m<sup>2</sup>  
B. 78.5 m<sup>2</sup>  
C. 88.44 m<sup>2</sup>  
D. 20.4375 m<sup>2</sup> (A)

*Explanation:* New area = 78.5 m<sup>2</sup>, increase = 78.5 - 19.625 = 58.875 m<sup>2</sup>

3. The total length of the silver wire required for a brooch (diameter 35 mm, 5 diameters):

- A. 110 mm  
B. 135 mm  
C. 150 mm  
D. 170 mm (B)

*Explanation:* Total wire = Circumference + 5 diameters = 135 mm

4. The area of each sector in a brooch (diameter 35 mm, 10 equal sectors):

- A. 40 mm<sup>2</sup>  
B. 45 mm<sup>2</sup>  
C. 50 mm<sup>2</sup>  
D. 55 mm<sup>2</sup> (A)

*Explanation:* Area of each sector =  $\frac{1}{10} * \pi * \left(\frac{35}{2}\right)^2 = 40 \text{ mm}^2$

5. The area between two ribs of a flat umbrella (radius 45 cm):

- A. 178 cm<sup>2</sup>  
B. 188 cm<sup>2</sup>  
C. 198 cm<sup>2</sup>  
D. 208 cm<sup>2</sup> (B)

*Explanation:* Area =  $\frac{45}{360} * \pi * 45^2 = 188 \text{ cm}^2$

6. The total area cleaned by two wipers, each with a 25 cm blade and a 115° sweep:

- A. 158 cm<sup>2</sup>  
B. 168 cm<sup>2</sup>  
C. 178 cm<sup>2</sup>  
D. 188 cm<sup>2</sup> (A)

*Explanation:* Total Area =  $2 * \frac{115}{360} * \pi * 25^2 = 158 \text{ cm}^2$

7. The area of the sea covered by a lighthouse light (80°, distance 16.5 km):

- A. 175.5 km<sup>2</sup>  
B. 185.5 km<sup>2</sup>  
C. 189.97 km<sup>2</sup>  
D. 195.5 km<sup>2</sup> (C)

*Explanation:* Area =  $80/360 * \pi * (16.5)^2 = 189.97 \text{ km}^2$

8. The cost of making designs on a round table cover (radius 28 cm, rate 0.35 per cm<sup>2</sup>):

- A. Rs. 152.75  
B. Rs. 162.68  
C. Rs. 170.50  
D. Rs. 180.75 (B)

*Explanation:* Area = 464.82 cm<sup>2</sup>, cost = 464.82 \* 0.35 = 162.68 Rs.

9. The area of the sector of a circle with radius 7 cm and angle 45°:

- A. 22 cm<sup>2</sup>  
B. 25 cm<sup>2</sup>  
C. 28 cm<sup>2</sup>  
D. 30 cm<sup>2</sup> (A)

*Explanation:* Area =  $\frac{45}{360} * \pi * 7^2 = 22 \text{ cm}^2$

10. The area of the major segment of a circle with radius 12 cm and angle 120°:

- A. 115.5 cm<sup>2</sup>  
B. 120.5 cm<sup>2</sup>  
C. 150.72 cm<sup>2</sup>  
D. 170.25 cm<sup>2</sup> (C)

*Explanation:* Area of major segment = Area of sector - Area of minor segment = 150.72 cm<sup>2</sup>