CLASS 10

AREAS RELATED TO CIRCLE

AREA OF COMBINATION OF PLANE FIGURE

EXERCISE

Q.1 Four equal circles, each of radius 5 cm, touch each other as shown in Fig. Find the area included between them (Take $\pi = 3.14$).



Q.2 Four cows are tethered at four corners of a square plot of side 50 m, so that they just cannot reach one another. What area will be left ungrazed ?



Q.3 The area of a circle inscribed in an equilateral triangle is 154 cm². Find the perimeter of the triangle. [Use $\pi = 22/7$ and $\sqrt{3} = 1.73$]

Q.4 Four equal circles are described about the four corners of a square so that each touches two of the others as shown in Fig. Find the area of the shaded region, each side of the square measuring 14 cm.



Q.5 In an equilateral triangle of side 24 cm, a circle is inscribed touching its sides. Find the area of the remaining portion of the triangle

(Take $\sqrt{3}=1.732$).

Q.6 An athletic track 14 m wide consists of two straight sections 120 m long joining semi-circular ends whose inner radius is 35 m. Calculate the area of the shaded region.



Q.7 The area of an equilateral triangle is

 $49\sqrt{3}$ cm². Taking each angular point as centre, a circle is described with radius equal to half the length of the side of the triangle as shown in Fig. Find the area of the triangle not included in the circle.



Q.8 The area of an equilateral triangle is

1732.05 cm². About each angular point as centre, a circle is described with radius equal to half the length of the side of the triangle. Find the area of the triangle not included in the circles (Use $\pi = 3.14$)



Q.9 A round table cover has six equal designs as shown in Fig. If the radius of the cover is 28 cm, find the cost of making the designs at the rate of +3.50 per cm². (Use $\sqrt{3}=1.7$)



ANSWER KEY

1. 21.5 m²

2. 535.71 m²

3. 72.7 cm

4. 154 cm²

5. 98.55 cm²

6. 7056 m²

7. 7.77 cm²

8. 162. 01 cm²