

Class – X

LESSON PLAN

TOPIC: AREA RELATED TO CIRCLES

Brief Description:-

In this chapter learners will recall various geometrical terms related to a circle, such as chord, arc, segment, sector and circumference. They will be taught to apply the concept of perimeter and area in finding the areas of sector and segment. Additionally, they will also learn to find the areas of some combinations of plane figures involving circles or their parts.

UN Sustainable Goal – Quality Education

Objectives: (Bloom's level)

Specific objective:

Students will be able to:

- Find the perimeter and area of a circle. (K)
- Find the length of an arc of a sector. (A)
- Understand and apply the formula for finding area of a sector.(U & A)
- Understand and apply the formula for finding area of a segment. (U & A)
- Find the areas of combination of plane figures. (AN)

Behavioral objective:-

By understanding the above concept students will be able to relate it to day to day life situations like: -

Slice a circular pizza base, cakes etc.

Skills

1. Calculation.
2. Reasoning.
3. Analytical thinking.

Expected learning outcomes:-

Students would be able to:

- Find the perimeter and area of a circle.
- Find the length of an arc of a sector.
- Understand and apply the formula for finding area of a sector.
- Understand and apply the formula for finding area of a segment.
- Find the areas of combination of plane figures.

Assessment (Based on Solo Taxonomy) – (1 mark for each question)

1. The perimeter of a quadrant of a circle of radius 'r' is: (PS)
(A) $\frac{\pi r}{2}$ (B) $2\pi r$ (C) $\frac{r}{2}[\pi + 4]$ (D) $2\pi r + \frac{r}{2}$
2. If θ is the angle (in degrees) of a sector of a circle of radius r , then area of the arc is: (US)
(A) $\frac{\theta}{360} \pi r^2$ (B) $\frac{\theta}{360} 2\pi r$ (C) $\frac{\theta}{180} \pi r^2$ (D) $\frac{\theta}{180} 2\pi r$
3. If the perimeter of a circle is equals to that of a square, then the ratios of their areas is: (MS)
(A) 22:7 (B) 14:11 (C) 7:22 (D) 11:14
4. The circumference of a circle is 100 cm. The side of a square inscribed in the circle is: (RE)
(A) $50\sqrt{2}$ cm (B) $\frac{100}{\pi}$ cm (C) $\frac{50\sqrt{2}}{\pi}$ cm (D) $\frac{100\sqrt{2}}{\pi}$ cm
5. The angle through the minute hand of the clock moves from 8 to 8:35 is: (EA)
(A) 210° (B) 90° (C) 60° (D) 45°