Areas related to circles - Points to Remember

1. Circle:

For a circle of a radius r,

(i) Circumference =2πr

(ii) Area of circle =πr2

(iii) Area of semicircle =πr22

(iv) Area of a quadrant =πr24

2. Area of Concentric Circles:

If R and r are the radii of two concentric circles such that R>r then, the area enclosed by the two circles =πR2-πr2=π(R2-r2)

3. Sector of a Circle:

If a sector of a circle of radius r contains an angle of θ°. Then,

(i) Length of the arc of the sector=θ360×2πr=θ360×(Circumference of the circle)

(ii) Perimeter of the sector=2r+θ360×2πr

(iii) Area of the sector=θ360×πr2=θ360× (Area of the circle)

4. Segment of a Circle:

Area of the segment = Area of the corresponding sector - Area of the corresponding triangle

=θ360×πr2-r2sinθ2cosθ2=πθ360-sinθ2cosθ2r2