ATOMIC ENERGY EDUCATION SOCIETY

PERIMETER AND AREA – 2/2

● Circle is a round plane figure whose boundary (the circumference) consists of points equidistant from the fixed point (the centre).

● Distance around the circular region is called the circumference or perimeter of the circle.

● Circumference of a circle, $C = \pi d$ $units$, where 'd' is the diameter of a circle and $\pi = \frac{22}{7}$ or 3.14 approximately.

● Area of the circle is the region enclosed by the circle.

● The area of the circle, $(A) = \pi r^2$ $sq.$ $units$, where 'r' is the radius of the circle.

● Area of the circular path = Area of the outer circle – Area of the inner circle
$= \pi R^2 - \pi r^2$
$= \pi (R^2 - r^2)$ sq. units, where 'R' and 'r' are radius of the outer and inner circles respectively.

Areas of rectangular paths:

Type1: Path runs outside/inside the given rectangle.

 Rule1: When the path runs outside, twice the width of the pathway should be added to length and breadth of the inner rectangle.

Rule2: When the path runs inside, twice the width of the path should be subtracted from the length and breadth of the outer rectangle.

Type2: Central Paths (When the paths run in the centre of the given rectangle, the area of the middle small square should be subtracted from the sum of the areas of the two paths).

● Area of the rectangular path = Area of the outer rectangle – Area of the inner rectangle
$= (LB - lb)$ sq.units, where $L, B,$ and $l, b$ are length and breadth of outer and inner rectangles respectively.

 CONVERSION OF UNITS:

Based on the conversion of units for lengths, the units of areas can also be converted:

 1 cm² = 100 mm², 1 m² = 10000 cm², 1 hectare = 10000 m²