CHAPTER – 12
AREA RELATED TO CIRCLE

12.1 INTRODUCTION

MENSURTION:

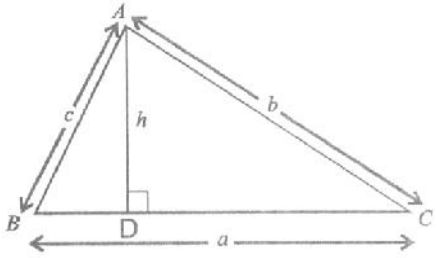
Figure lying in a plane is called a plane figure. A plane figure made up of lines or curve or both, is said to be a closed figure if it has on free ends. Closed figure in a plane covers some part of the plane, then magnitude of that part of the plane is called the area of that closed figure. the unit of measurement of that part of the plane is called the area of that closed figure. the unit of measurement of area is square unit (i.e. square centimeter, square metre etc.)

(a)Mensuration of a Triangle:

perimeter = a + b + c

Area = $\frac{1}{2}$ × Base × Height

$= \frac{1}{2}$ ah



Heron's formula:

Area = $\sqrt{s(s-a)(s-b)(s-c)}$

Where's = semi – perimeter

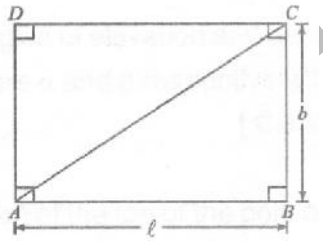
$= \frac{a+b+c}{2}$

(b) Area of a Rectangle:

Perimeter $= 2(\ell + b)$

Area $= \ell \times b$

Length of diagonal $= \sqrt{\ell^2 + b^2}$

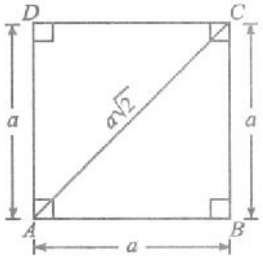


(c) Area of a Square:

Perimeter = 4 a

Area = a^2

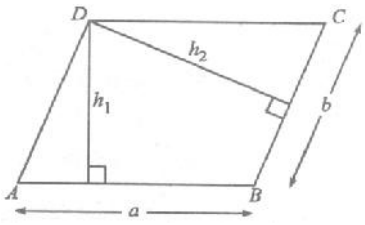
Length of diagonal = $a\sqrt{2}$



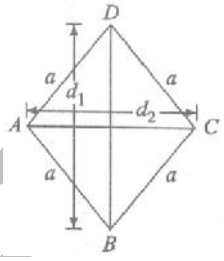
(d) Area of a parallelogram:

Perimeter = 2 (a + b)

Area =$ah_1 = bh_2$



(e) Area of a Rhombus:

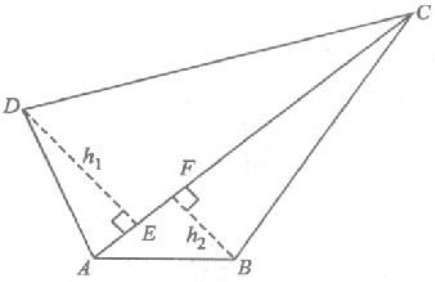


Perimeter = 4a = $2\sqrt{d_1^2 + d_2^2}$

Area $= \frac{1}{2} d_1 d_2$

(f) Area of a Quadrilateral:

Let AC = d



Area = $\frac{1}{2} d(h_1 + h_2)$

(g) Area of a Trapezium:

Area $= \frac{1}{2} h(a + b)$