IMPORTANCE OF ENGINEERING GRAPHICS

In Engineering Profession, it is very essential that the Engineers and Craftsmen are able to communicate their ideas and facts with each other clearly and without ambiguity. The verbal communication may be hopelessly inadequate. The written communication, on the other hand may be very inefficient, lengthy and boring to create accurate mental and physical impression of an item in the mind of the reader.

The Engineering Drawing, which is a Graphical Communication of an accurate and unambiguous description of an object, has proved to be an efficient communication method. It is a means of organizing and presenting precise technical directions for items to be produced for the consumers.

Engineering Drawing can supply all the information needed with the exactness and details required. It is therefore, one of the principal functions of drawing to convey ideas from the design engineer to the fabricator. Hence, the skill to interpret and construct engineering sketches and drawings is of paramount importance.

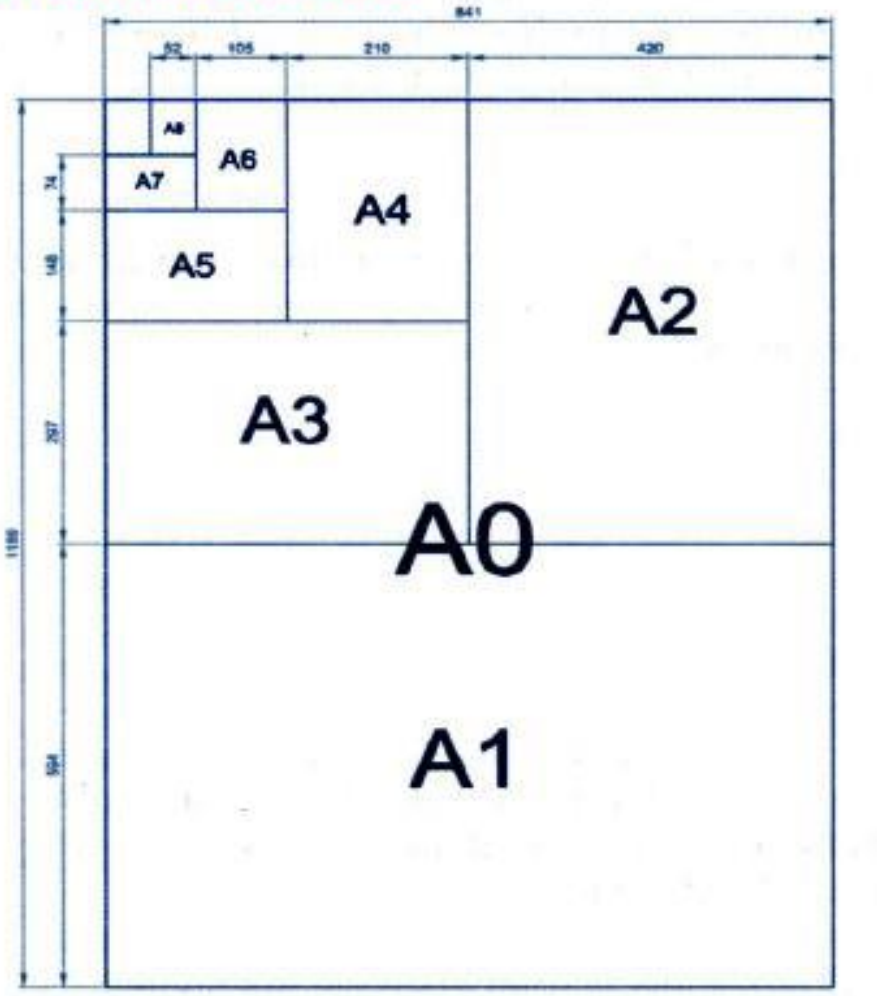
The engineer may convey his ideas by one or more of the three basic types of projections namely; Orthographic Projection, Oblique Projection or Perspective Projection, depending upon the purpose of the drawing and the person to whom he wishes to convey his ideas. Certain professional areas have different nomenclature such as Machine Drawing, Architectural Drawing, and Structural Drawing.

RAWING INSTRUMENTS AND SHEET LAYOUT

DRAWING BOARD SIZE

Sl. No.	Designation	Length x Width (in mm)	Thickness (in mm)	To be used with Sheet Sizes
1.	D00	1525 x 1220	22	-
1.	D0	1270 x 920	22	A0
3.	D1	920 x 650	22	A1
4.	D2	650 x 470	22	A2
5.	D3	500 x 350	22	A3

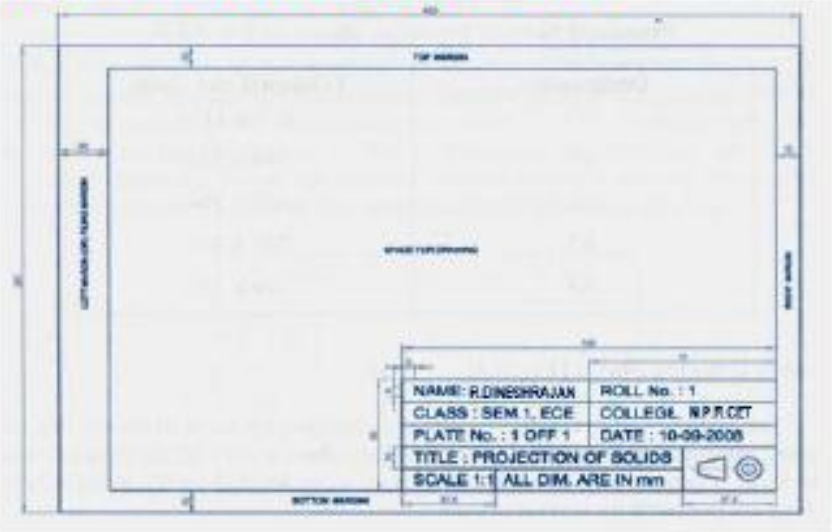
DRAWING SHEET LAYOUT



DRAWING SHEET SIZE

Designation	Trimmed size (mm)
A0	841 x 1189
A1	594 x 841
A2	420 x 594
A3	297 x 420
A4	210 x 297

TITLE BLOCK OF DRAWING SHEET



LINES, LETTERING AND DIMENSIONING

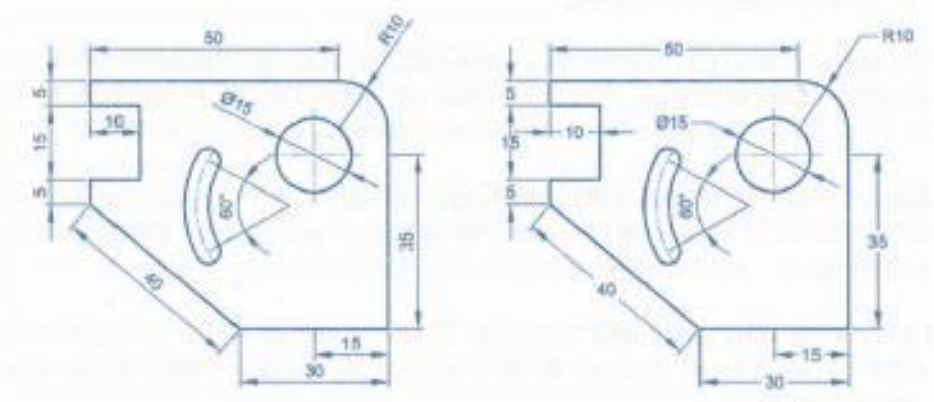
LINE TYPE	DESCRIPTION	APPLICATION
A	THICK CONTINUOUS	VISIBLE OUTLINES AND EDGES
B	THIN CONTINUOUS	DIMENSIONS AND LEADER LINES, PROJECTION LINES, HATCHING LINES, SHORT CENTRE LINE AND REVOLVED SECTIONS.
C_1	THIN CONTINUOUS IRREGULAR	LIMITS OF PARTIAL OR INTERRUPTED VIEWS OR SECTIONS WHEN THE LINE IS NOT AN AXIS.
C_2	STRAIGHT WITH ZIGZAG	
D	THIN OR THICK SHORT DASHES	HIDDEN OUTLINES AND EDGES
E	THIN CHAIN	CENTRE LINES, LINES OF SYMMETRY, PITCH CIRCLES AND LINES
F	CHAIN, THICK AT ENDS AND AT CHANGES OF DIRECTION, THIN ELSEWHERE	CUTTING PLANE
G	THIN CHAIN SHORT DOUBLE DASHES	OUTLINES AND EDGES OF ADJACENT PARTS AND EXTREME POSITIONS OF MOVABLE PARTS

SPECIFICATION OF "A" TYPE LETTERING:

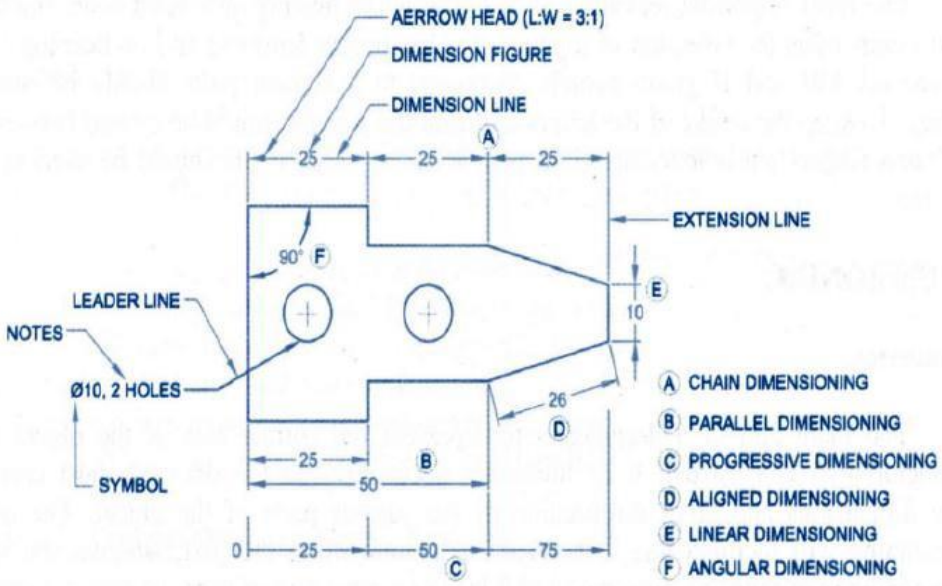
Specifications	Value	Size						
Capital Letter Height	h	2.5	3.5	5	7	10	14	20
Lowercase Letter Height	a = (5/7) h	-	2.5	3.5	5	7	10	14
Thickness of Lines	b = (1/14) h	0.18	0.25	0.35	0.5	0.7	1	1.4
Spacing between Characters	c = (1/7) h	0.35	0.5	0.7	1	1.4	2	2.8
Min.Spacing between words	d = (3/7) h	1.05	1.5	2.1	3	4.2	6	8.4
Min. Spacing between Base Lines	e = (10/7) h	3.5	5	7	10	14	20	28

SPECIFICATION OF "B" TYPE LETTERING:

Specifications	Value	Size						
Capital Letter Height	h	2.5	3.5	5	7	10	14	20
Lowercase Letter Height	a = (7/10) h	-	2.5	3.5	5	7	10	14
Thickness of Lines	b = (1/10) h	0.25	0.35	0.5	0.7	1	1.4	2
Spacing between Characters	c = (1/5) h	0.5	0.7	1	1.4	2	2.8	4
Min.Spacing between words	d = (3/5) h	1.5	2.1	3	4.2	6	8.4	12
Min. Spacing between Base Lines	e = (7/5) h	3.5	5	7	10	14	20	28



ALIGNED DIMENSION UNIDIRECTION DIMENSION



GENERAL DIMENSION