

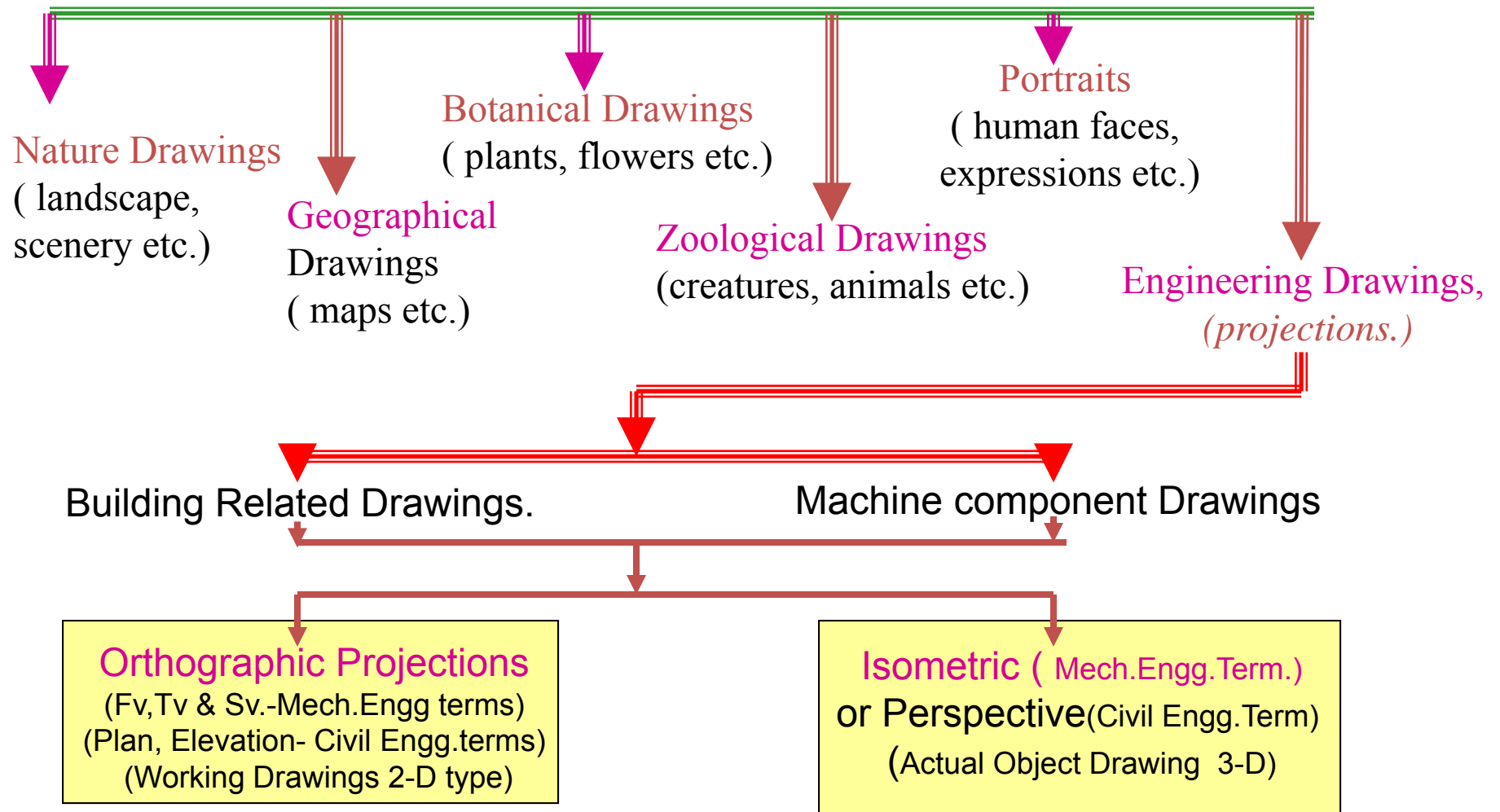
DRAWINGS: (*A Graphical Representation*)

The Fact about:

If compared with Verbal or Written Description,
Drawings offer far better idea about the Shape, Size & Appearance of
any object or situation or location, that too in quite a less time.

*Hence it has become the Best Media of Communication
not only in Engineering but in almost all Fields.*

Drawings (Some Types)





ORTHOGRAPHIC PROJECTIONS:

IT IS A TECHNICAL DRAWING IN WHICH DIFFERENT VIEWS OF AN OBJECT
ARE PROJECTED ON DIFFERENT REFERENCE PLANES
OBSERVING PERPENDICULAR TO RESPECTIVE REFERENCE PLANE

Different Reference planes are

Horizontal Plane (HP),
Vertical Frontal Plane (VP)
Side Or Profile Plane (PP)

And

Different Views are Front View (FV), Top View (TV) and Side View (SV)

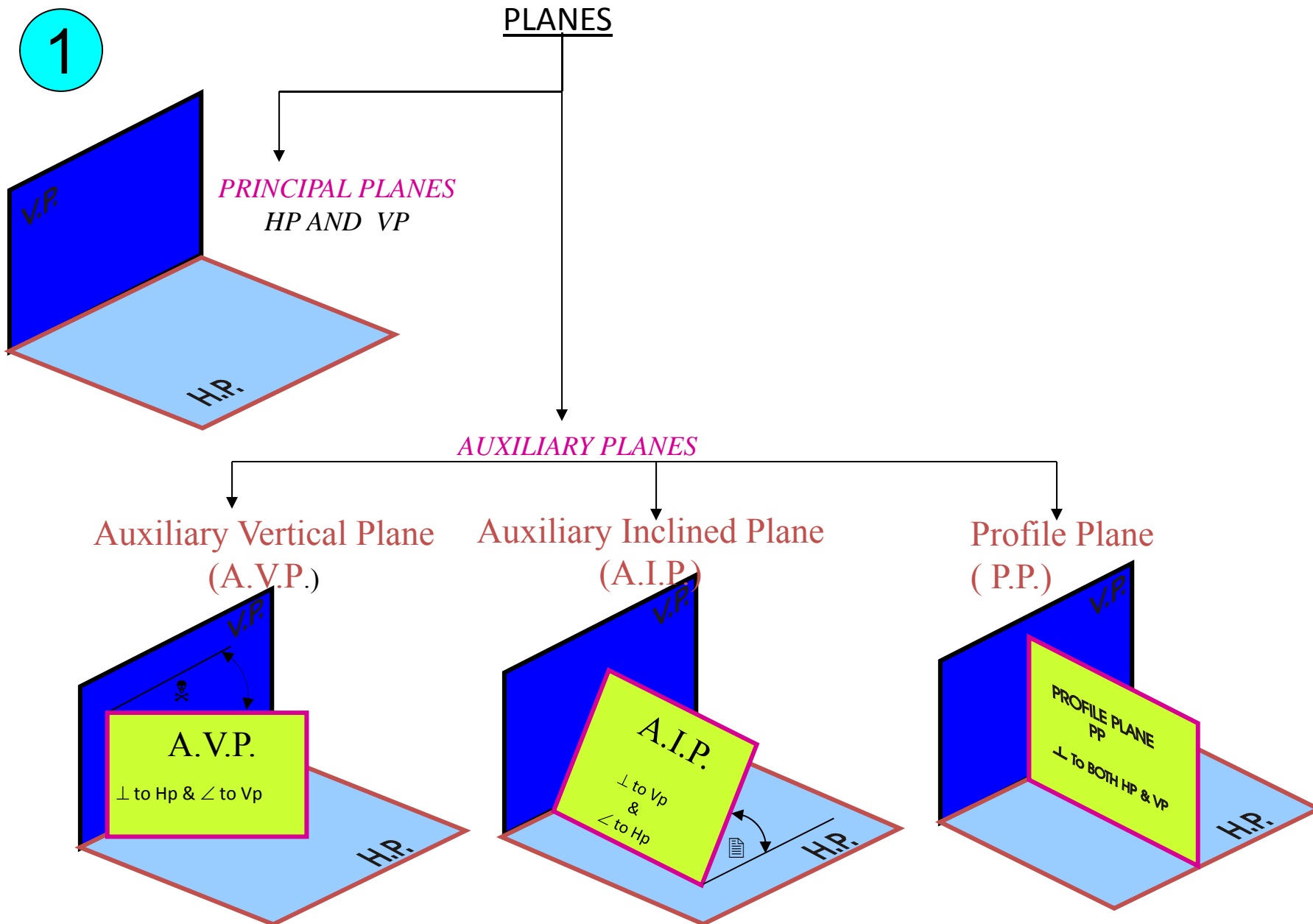
FV is a view projected on VP.

TV is a view projected on HP.

SV is a view projected on PP.

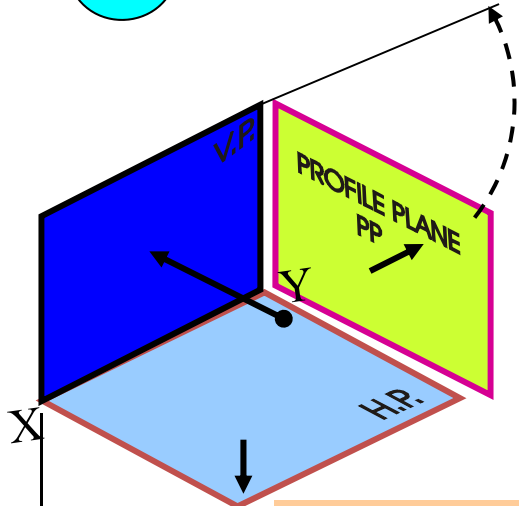
IMPORTANT TERMS OF ORTHOGRAPHIC PROJECTIONS:

- 1 Planes.
- 2 Pattern of planes & Pattern of views
- 3 Methods of drawing Orthographic Projections



2

PATTERN OF PLANES & VIEWS (First Angle Method)



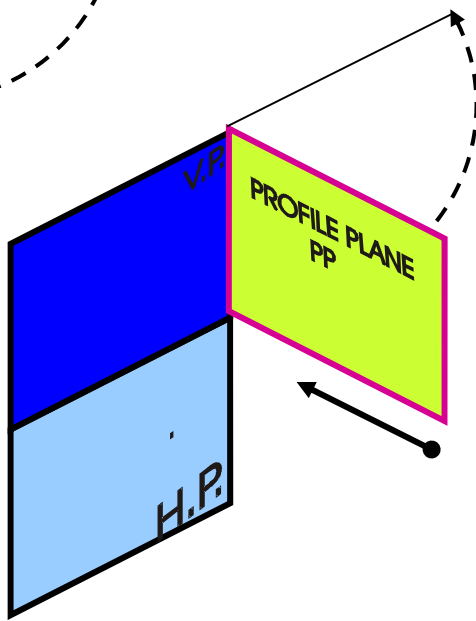
THIS IS A PICTORIAL SET-UP OF ALL THREE PLANES. ARROW DIRECTION IS A NORMAL WAY OF OBSERVING THE OBJECT. BUT IN THIS DIRECTION ONLY VP AND A VIEW ON IT (FV) CAN BE SEEN. THE OTHER PLANES AND VIEWS ON THOSE CAN NOT BE SEEN.

PROCEDURE TO SOLVE ABOVE PROBLEM:-

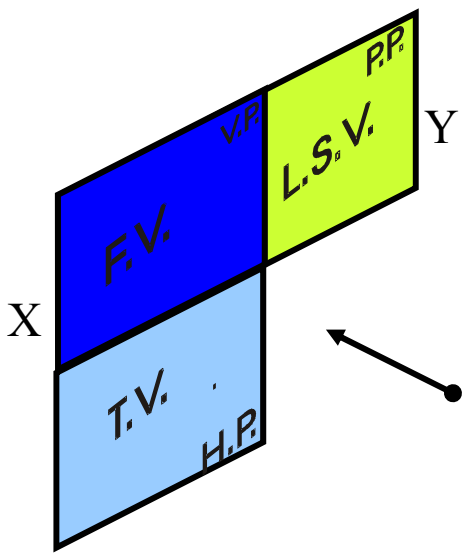
TO MAKE THOSE PLANES ALSO VISIBLE FROM THE ARROW DIRECTION,
 A) HP IS ROTATED 90° DOWNWARD
 B) PP, 90° IN RIGHT SIDE DIRECTION.
 THIS WAY BOTH PLANES ARE BROUGHT IN THE SAME PLANE CONTAINING VP.

Click to view Animation

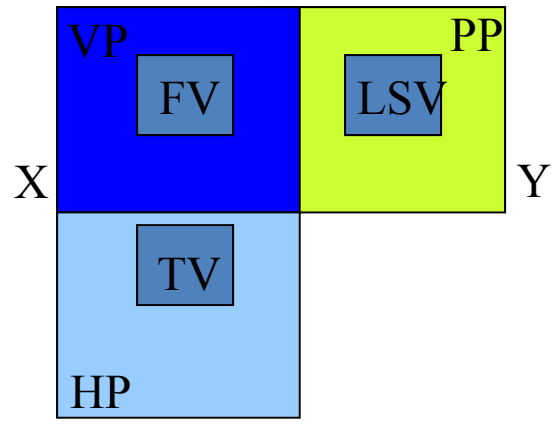
On clicking the button if a warning comes please click YES to continue, this program is safe for your pc.



HP IS ROTATED DOWNWARD 90° AND BROUGHT IN THE PLANE OF VP.



PP IS ROTATED IN RIGHT SIDE 90° AND BROUGHT IN THE PLANE OF VP.



ACTUAL PATTERN OF PLANES & VIEWS OF ORTHOGRAPHIC PROJECTIONS DRAWN IN FIRST ANGLE METHOD OF PROJECTIONS

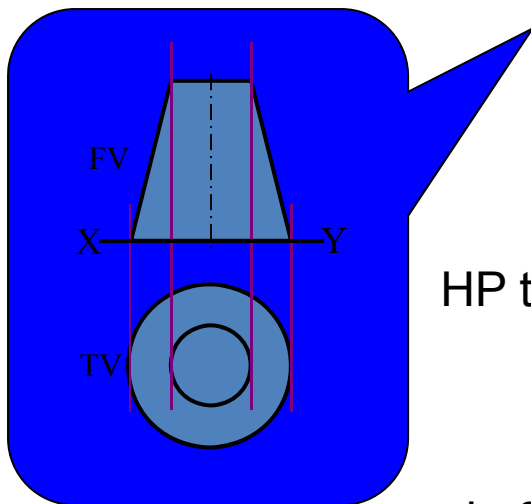
3

Methods of Drawing Orthographic Projections

First Angle Projections Method

Here views are drawn
by placing object
in 1st Quadrant

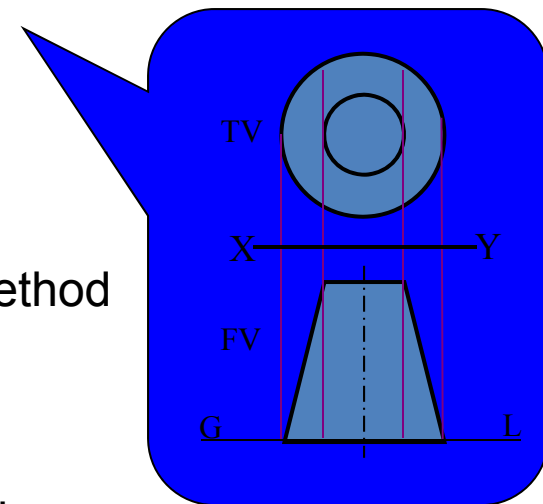
(*Fv above X-y, Tv below X-y*)



Third Angle Projections Method

Here views are drawn
by placing object
in 3rd Quadrant.

(*Tv above X-y, Fv below X-y*)



SYMBOLIC
PRESENTATION
OF BOTH METHODS
WITH AN OBJECT
STANDING ON HP (GROUND)
ON IT'S BASE.

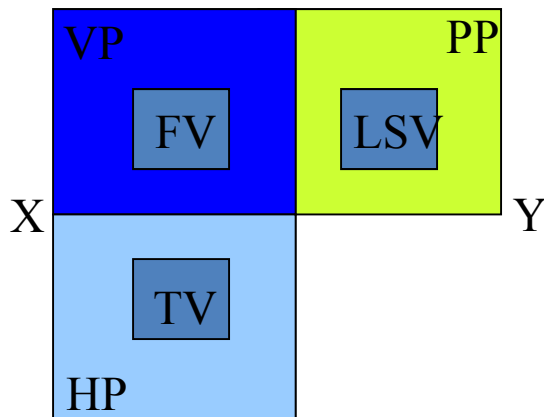
NOTE:-

HP term is used in 1st Angle method
&
For the same
Ground term is used
in 3rd Angle method of projections

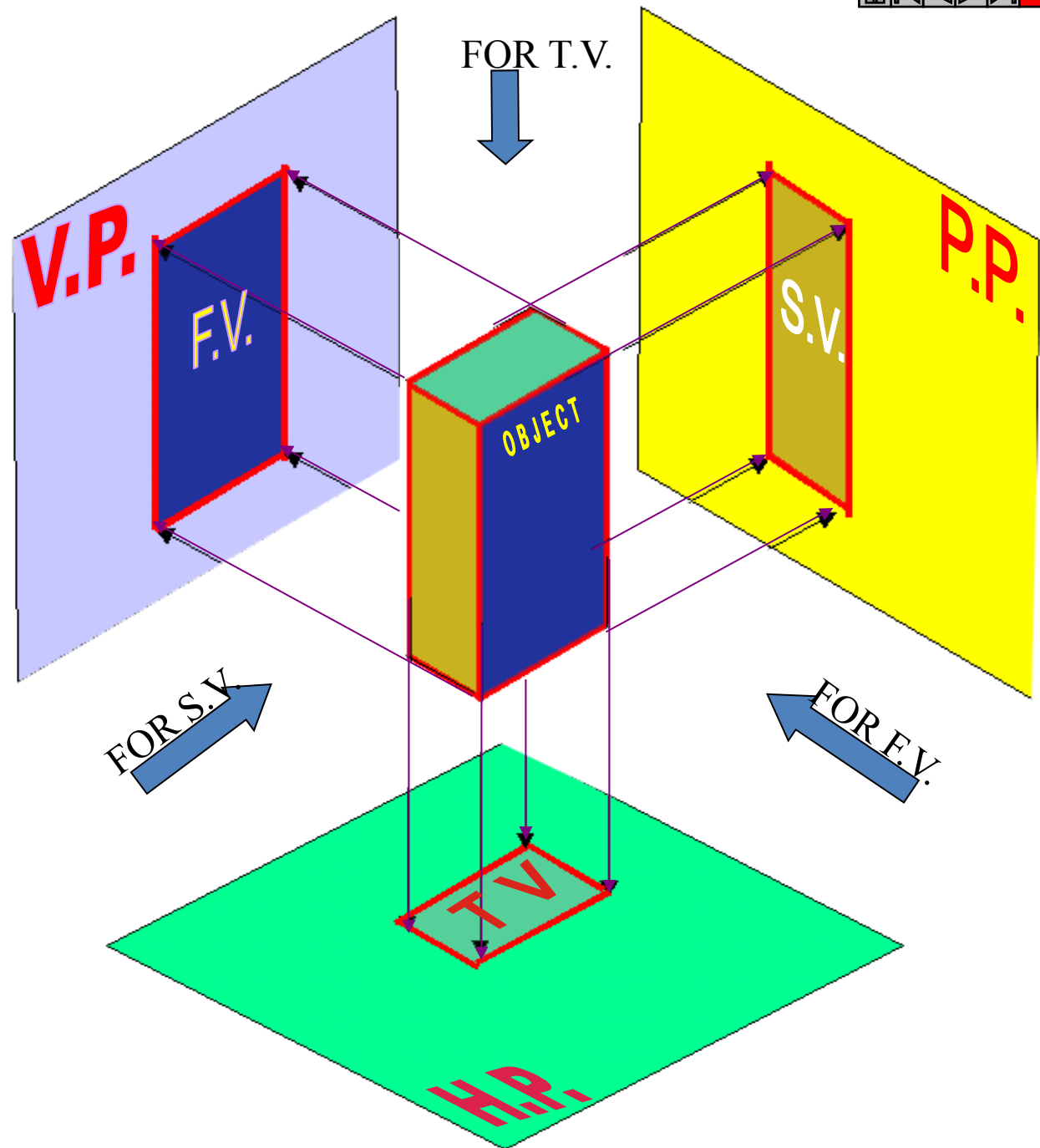
FIRST ANGLE PROJECTION

IN THIS METHOD,
THE OBJECT IS ASSUMED TO BE
SITUATED IN FIRST QUADRANT
MEANS
ABOVE HP & INFRONT OF VP.

OBJECT IS IN BETWEEN
OBSERVER & PLANE.



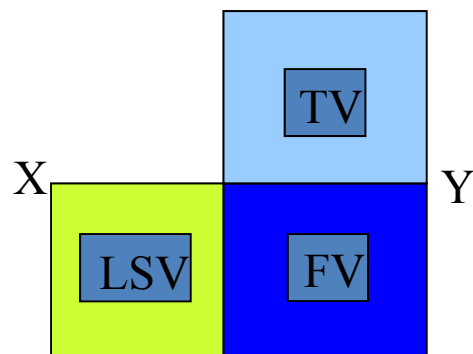
ACTUAL PATTERN OF
PLANES & VIEWS
IN
FIRST ANGLE METHOD
OF PROJECTIONS



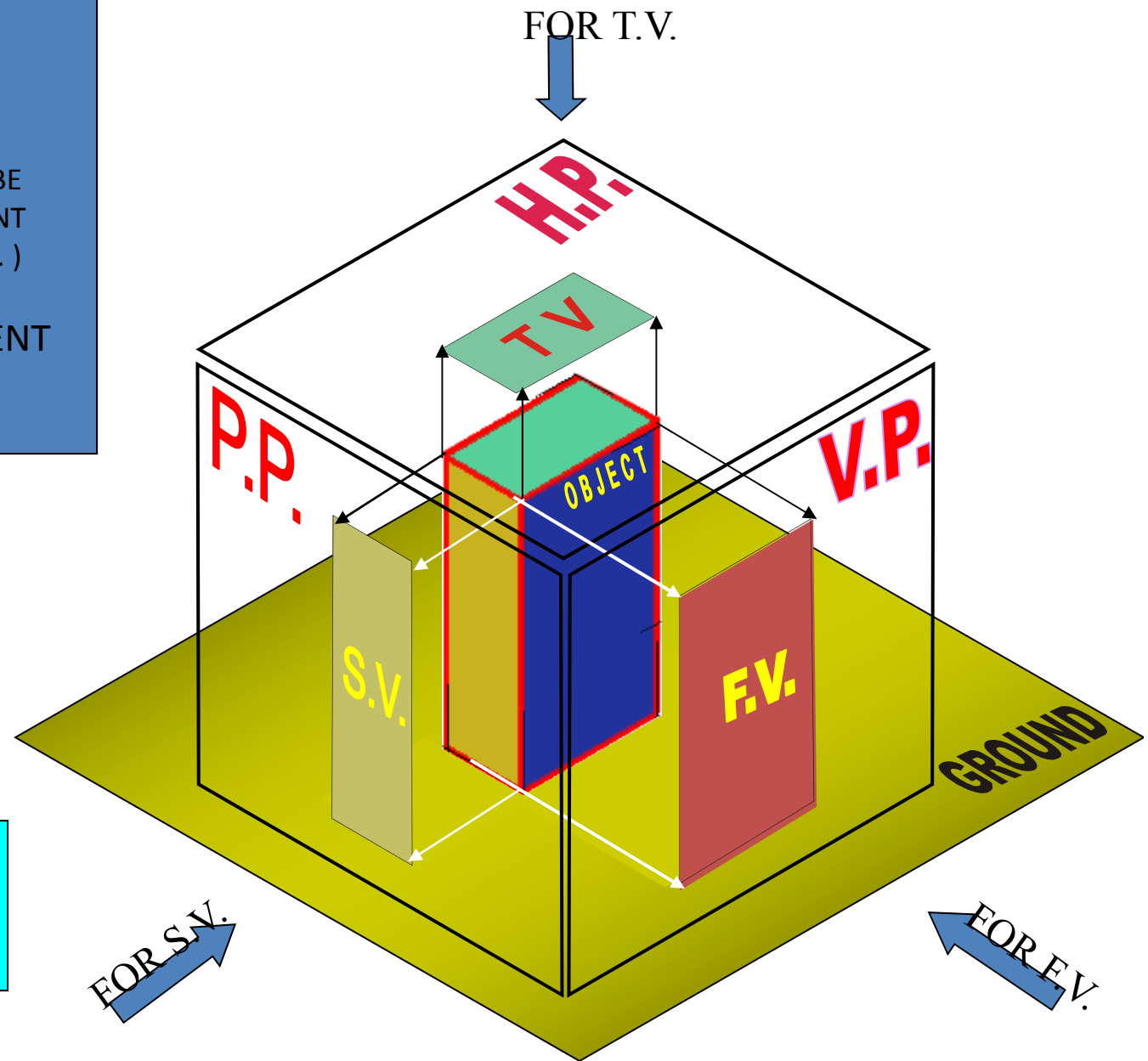
THIRD ANGLE PROJECTION

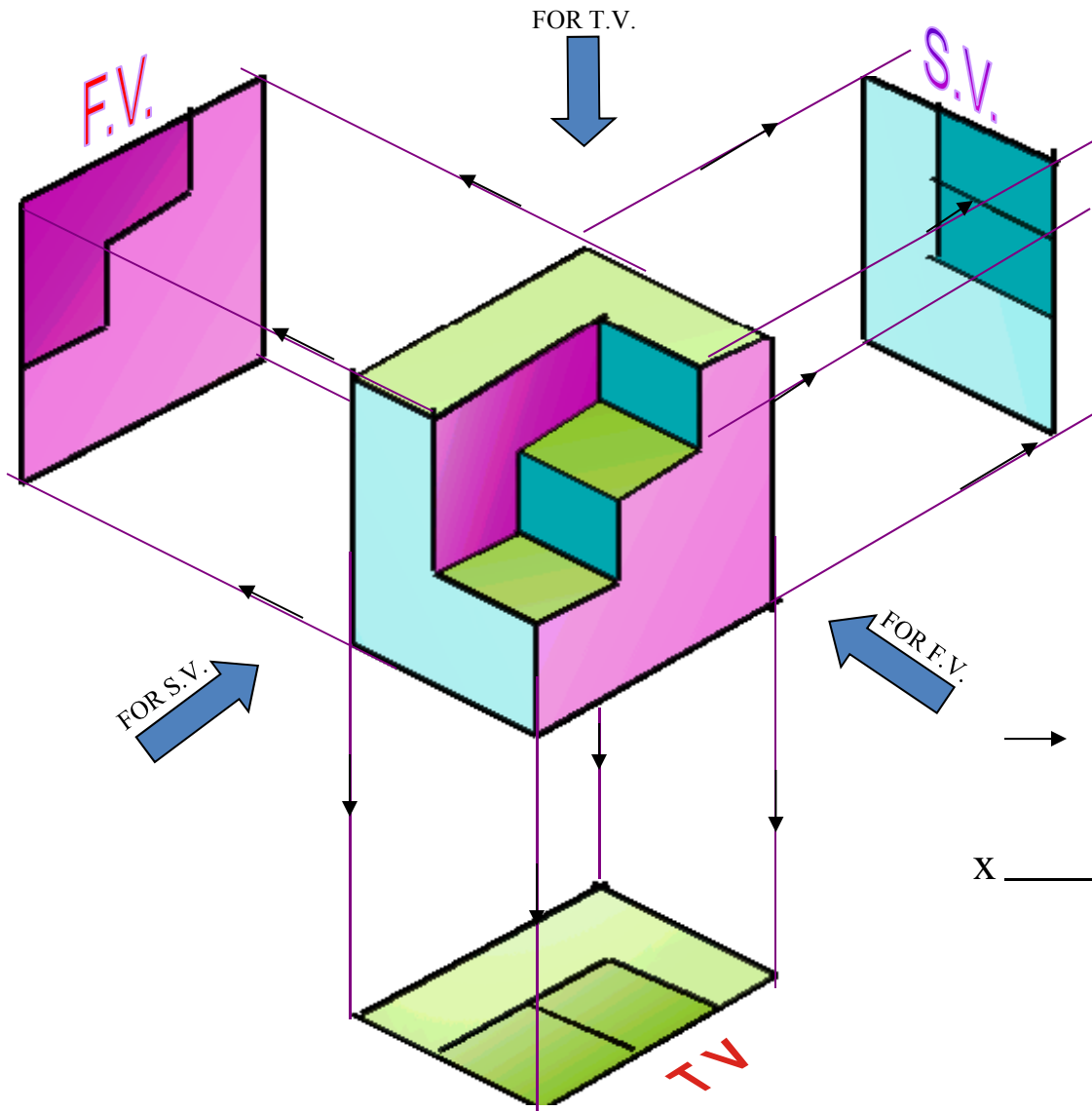
IN THIS METHOD,
THE OBJECT IS ASSUMED TO BE
SITUATED IN THIRD QUADRANT
(BELOW HP & BEHIND OF VP.)

PLANES BEING TRANSPERENT
AND INBETWEEN
OBSERVER & OBJECT.

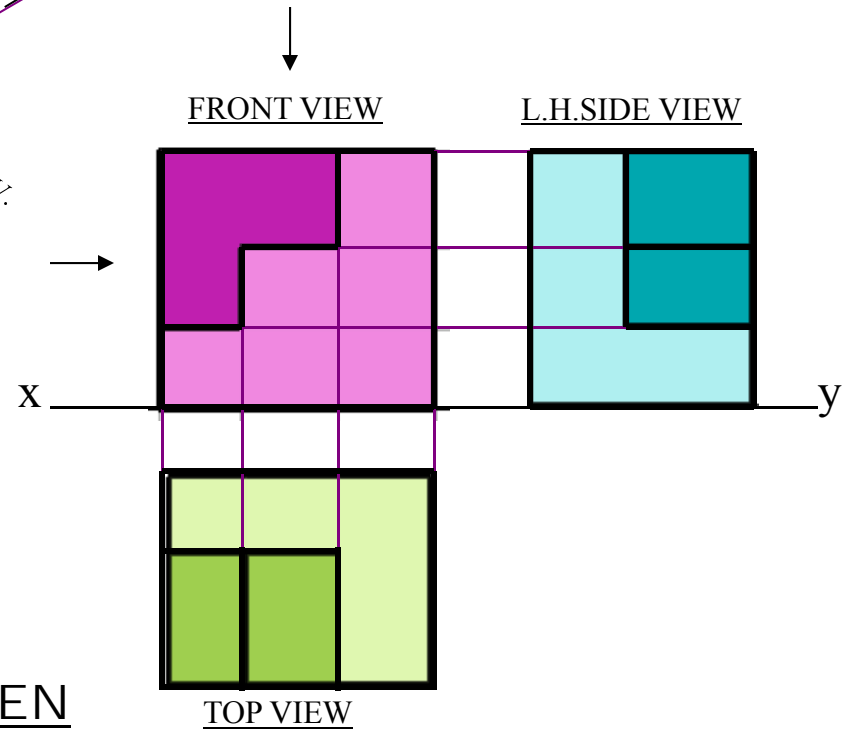


ACTUAL PATTERN OF
PLANES & VIEWS
OF
THIRD ANGLE PROJECTIONS

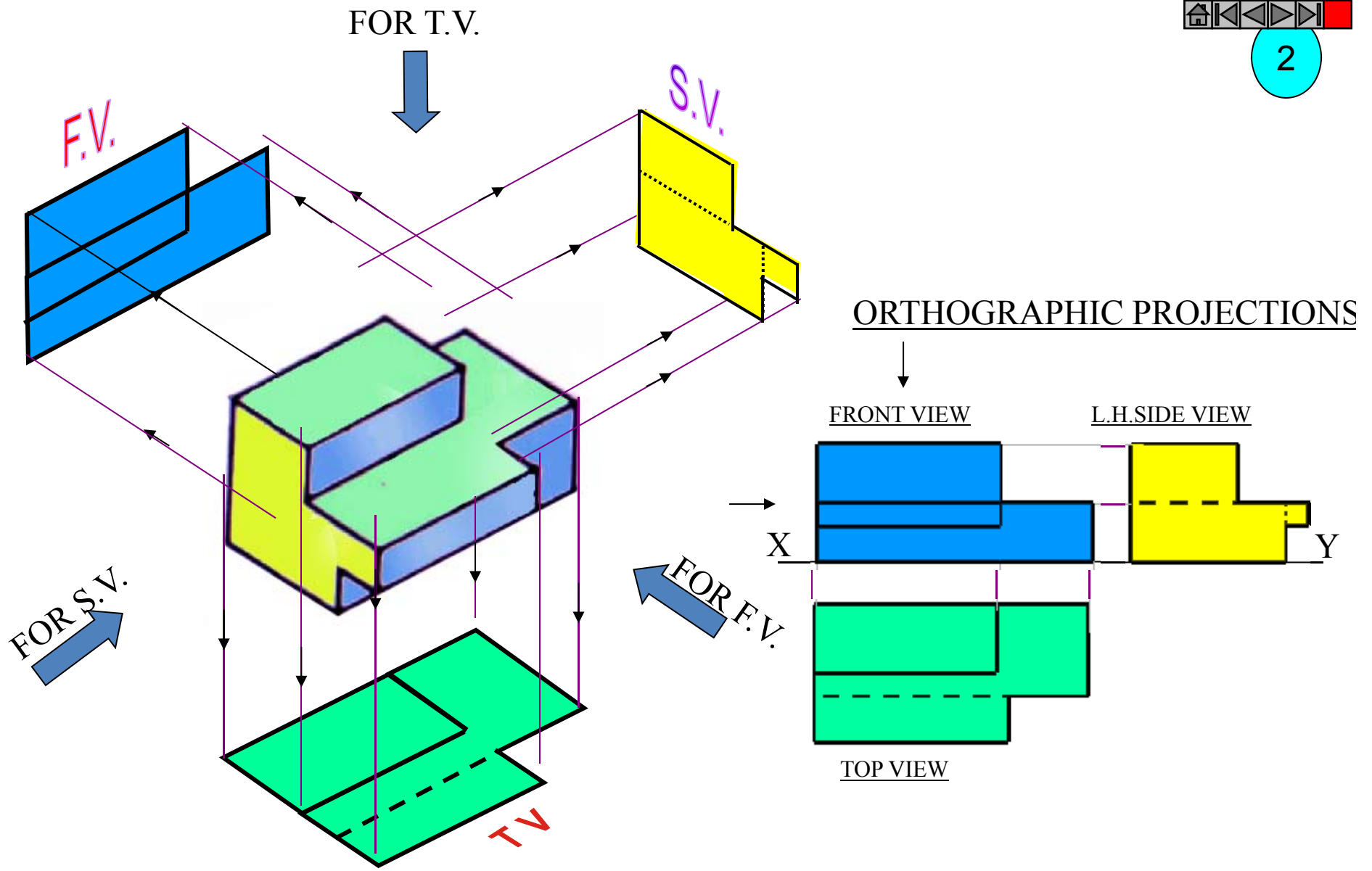




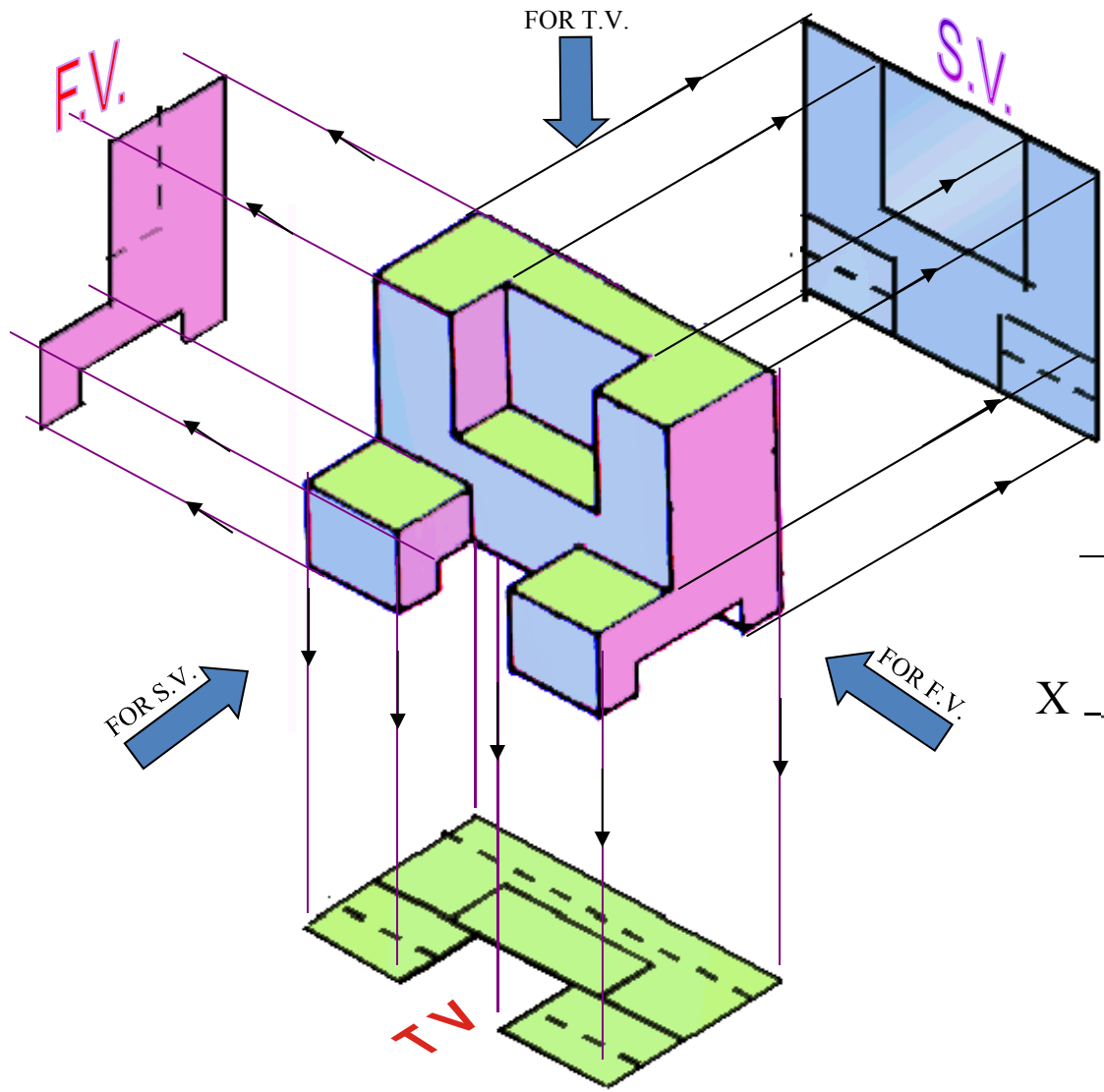
ORTHOGRAPHIC PROJECTIONS



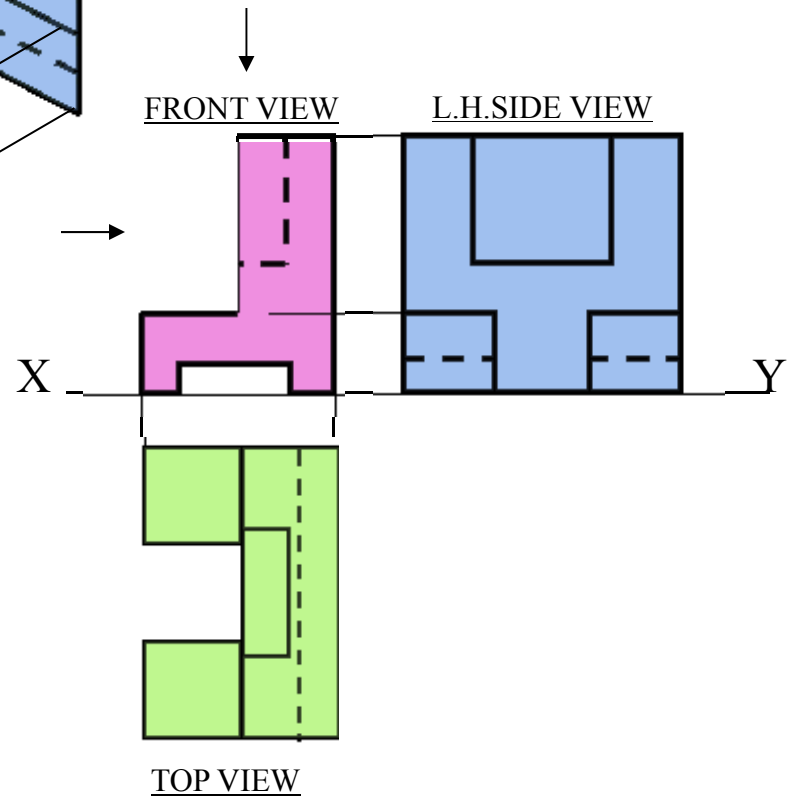
PICTORIAL PRESENTATION IS GIVEN
DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD



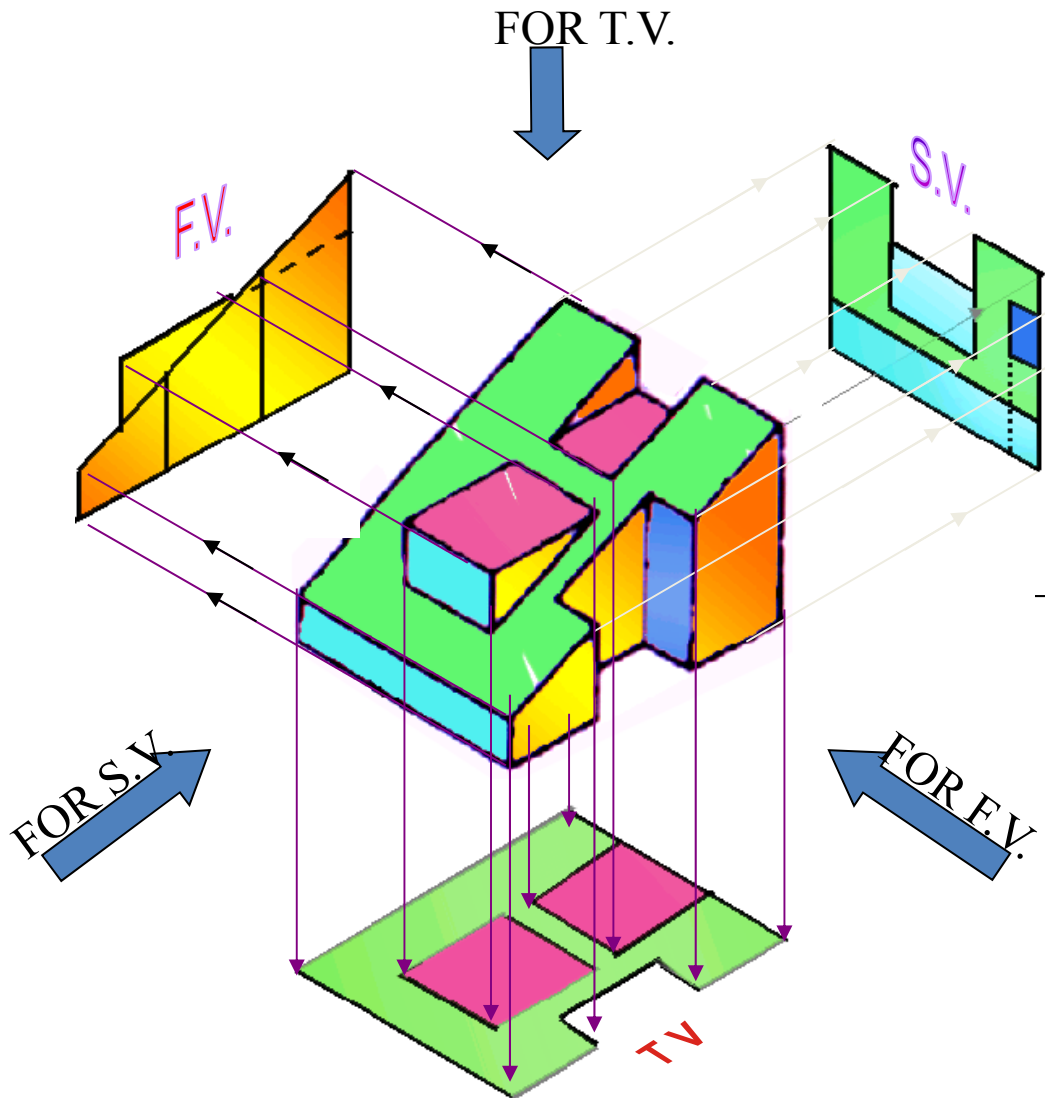
PICTORIAL PRESENTATION IS GIVEN
DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD



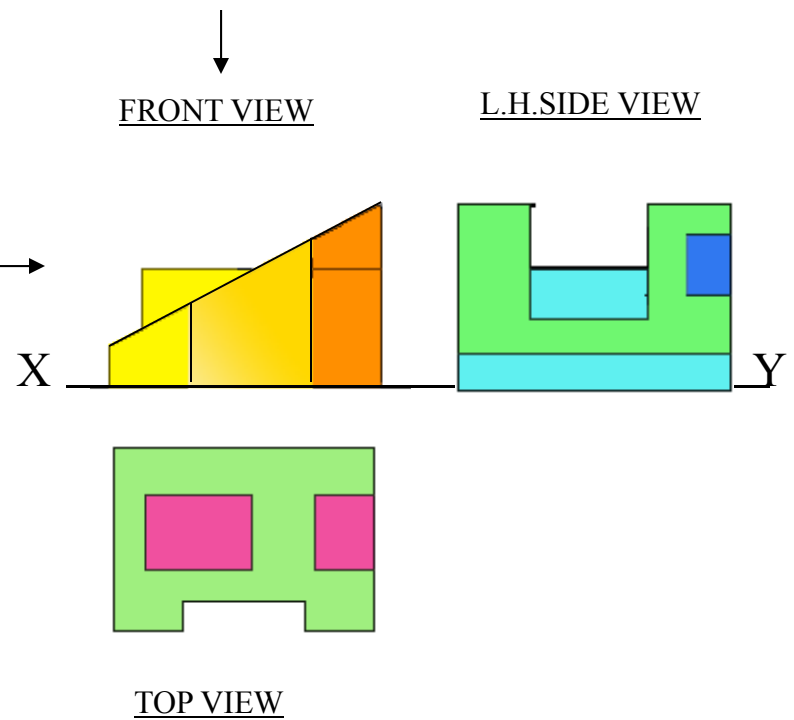
ORTHOGRAPHIC PROJECTIONS



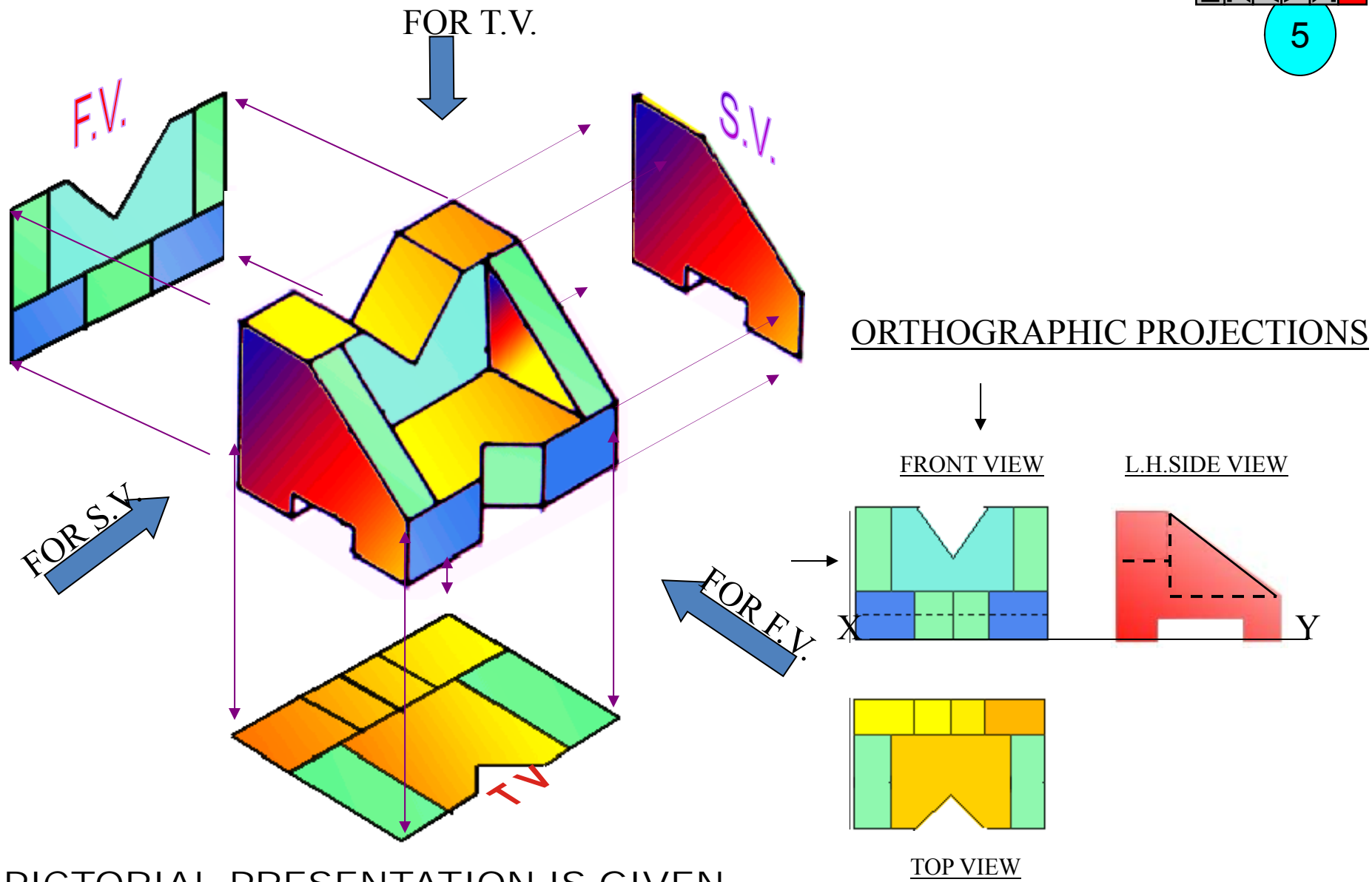
PICTORIAL PRESENTATION IS GIVEN
DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD



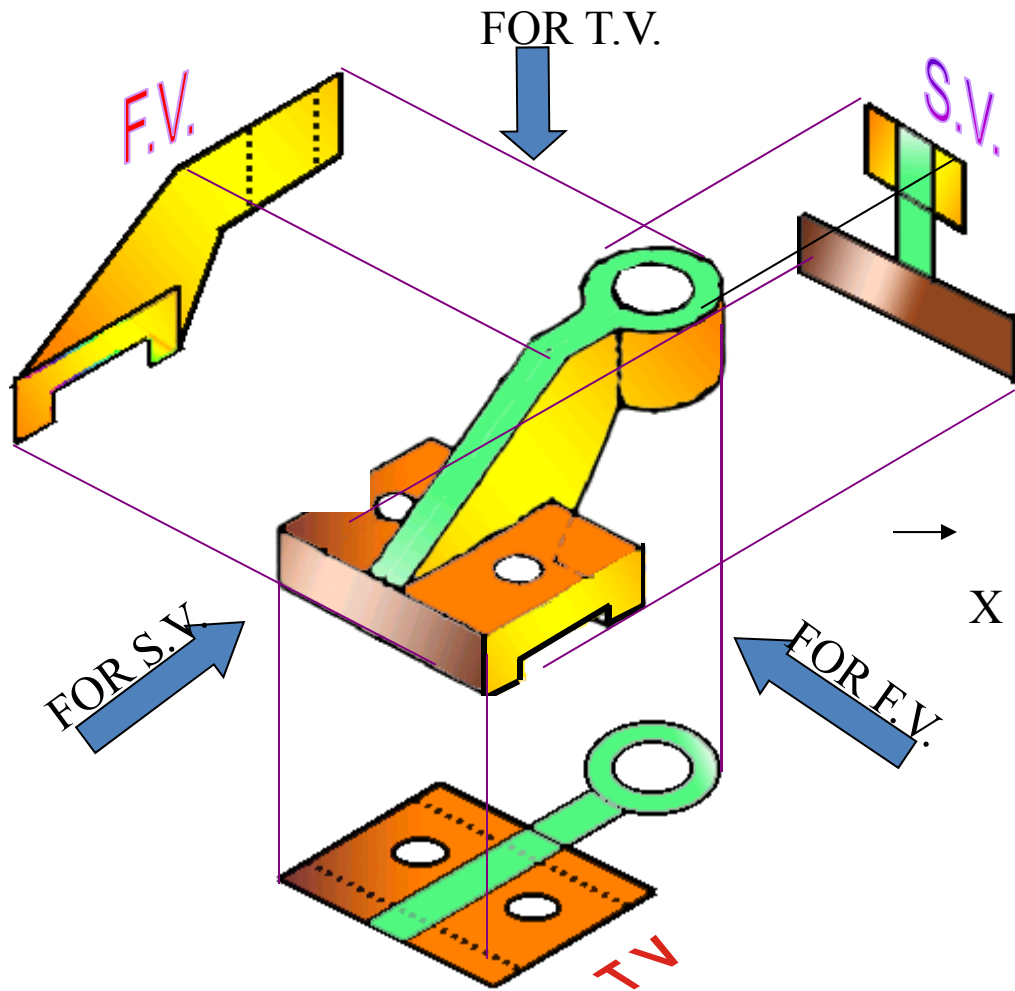
ORTHOGRAPHIC PROJECTIONS



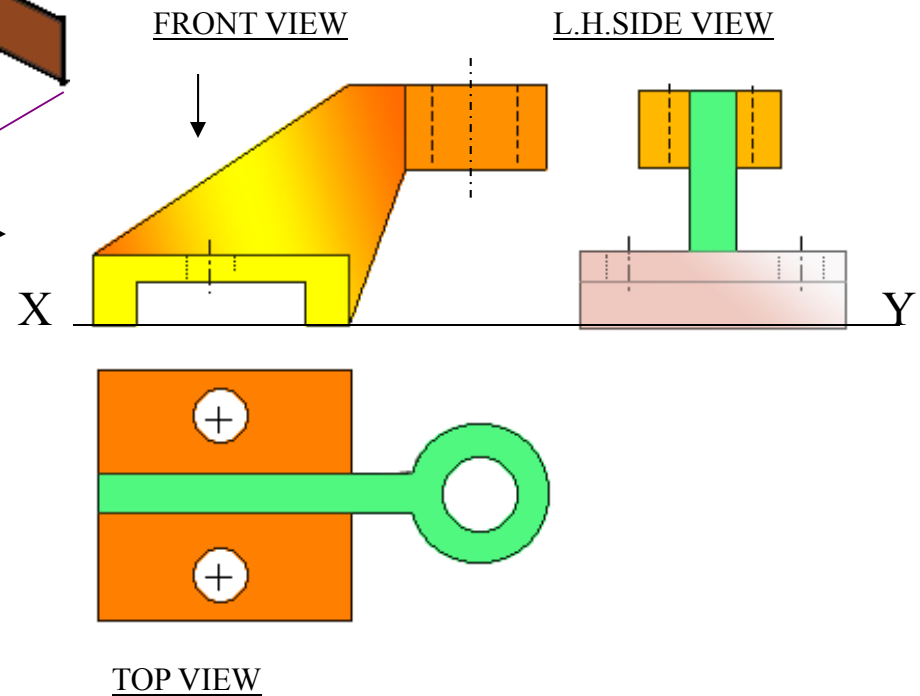
PICTORIAL PRESENTATION IS GIVEN
DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD



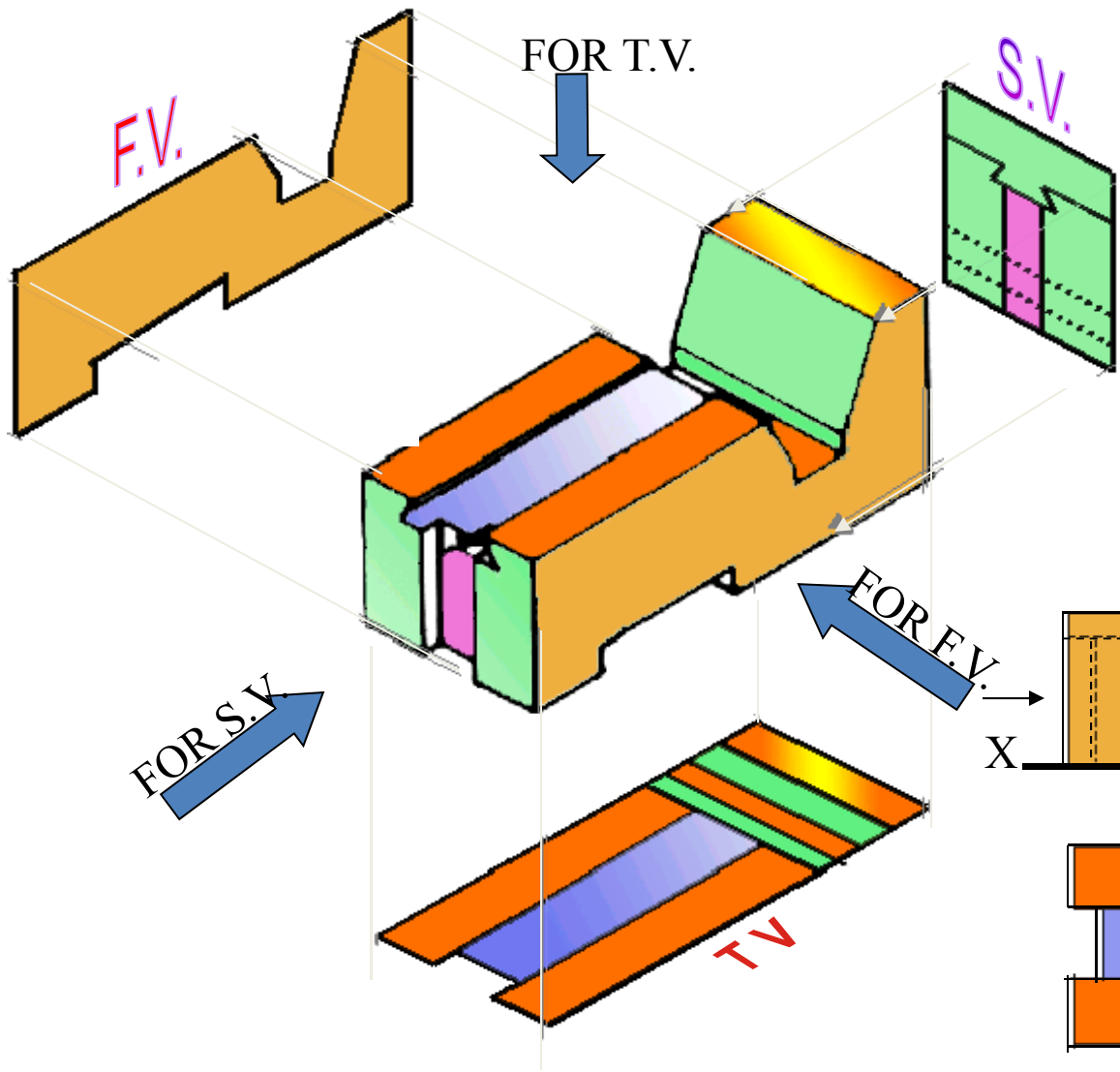
PICTORIAL PRESENTATION IS GIVEN
**DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD**



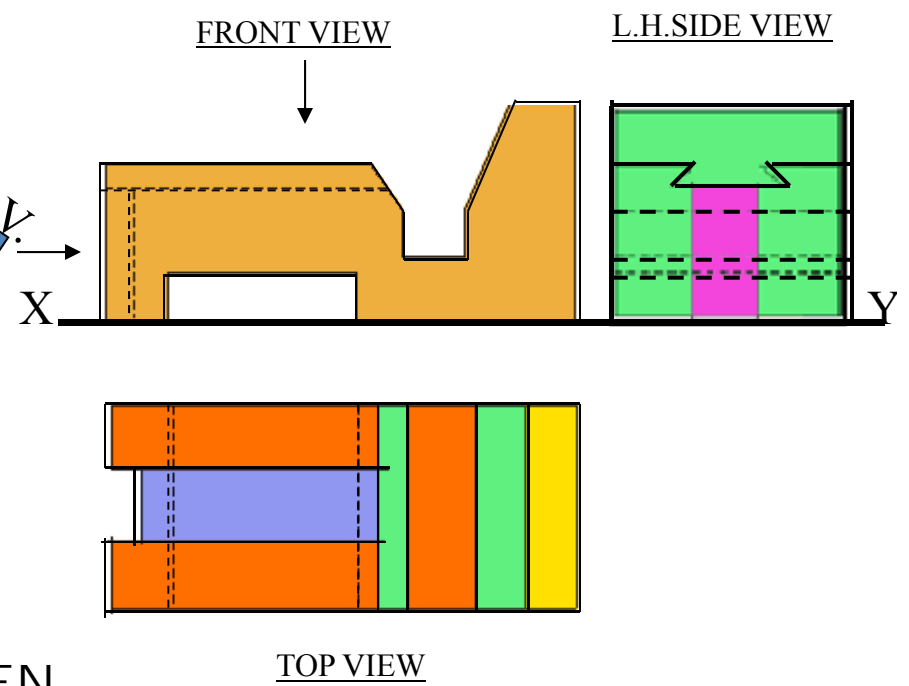
ORTHOGRAPHIC PROJECTIONS



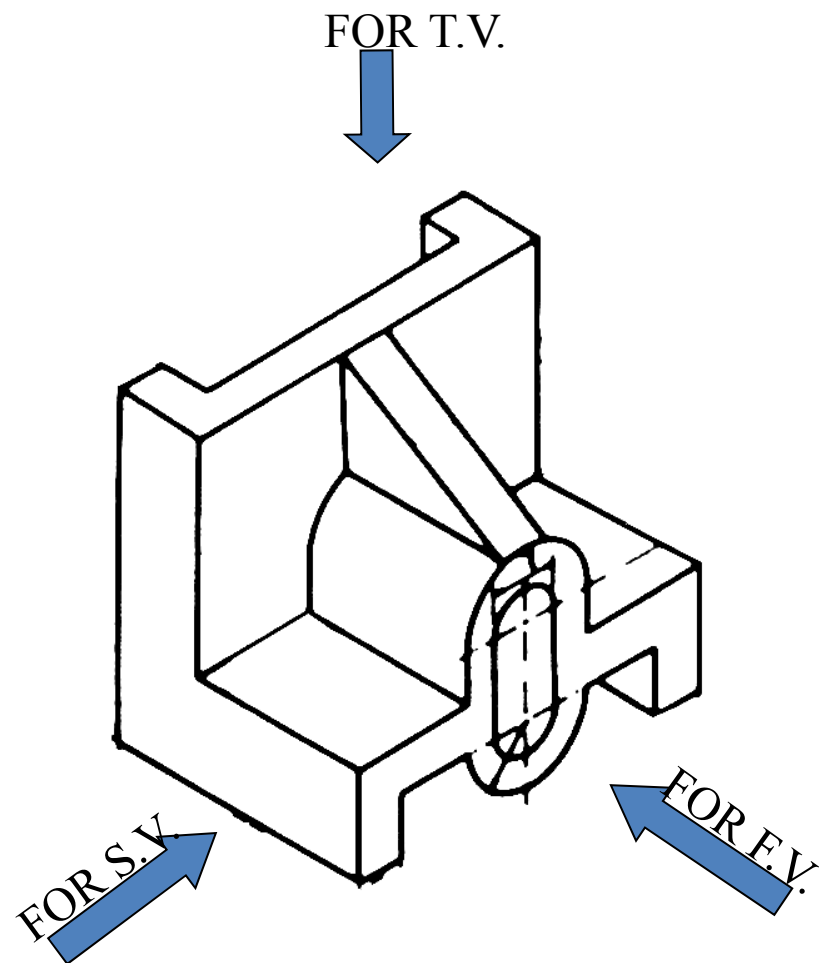
PICTORIAL PRESENTATION IS GIVEN
DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD



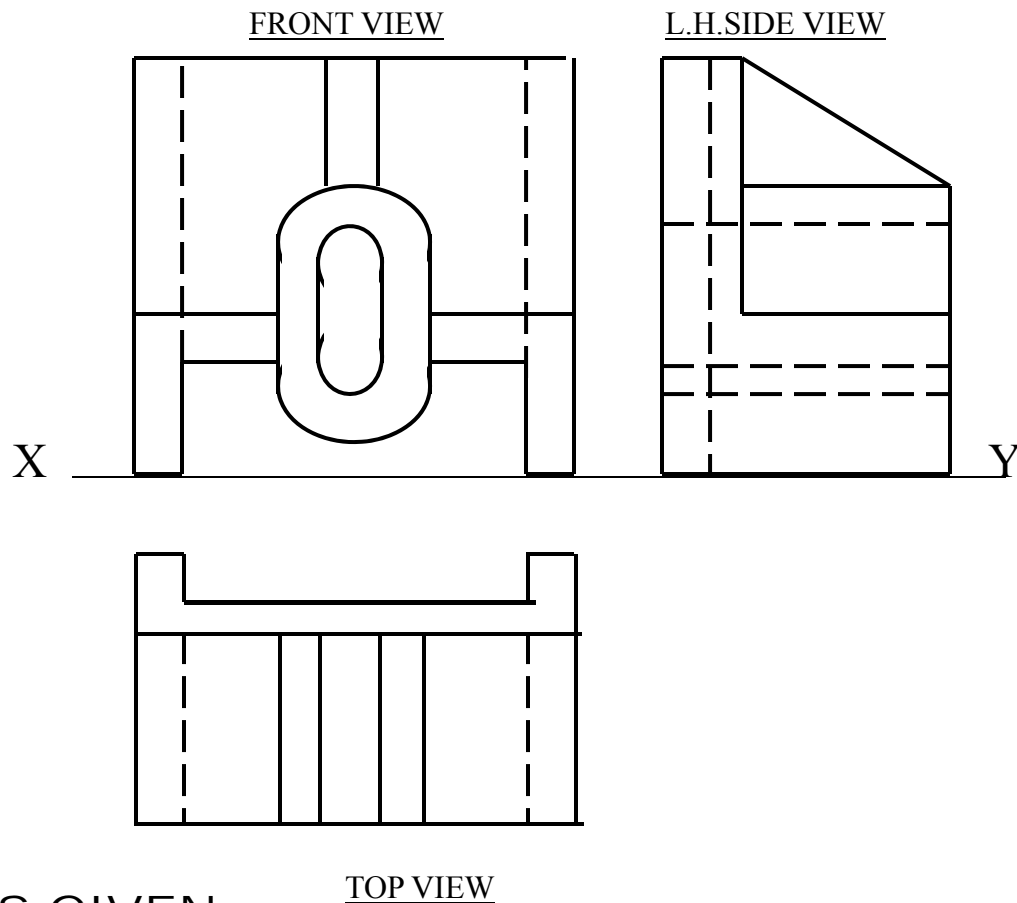
ORTHOGRAPHIC PROJECTIONS



PICTORIAL PRESENTATION IS GIVEN
DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD



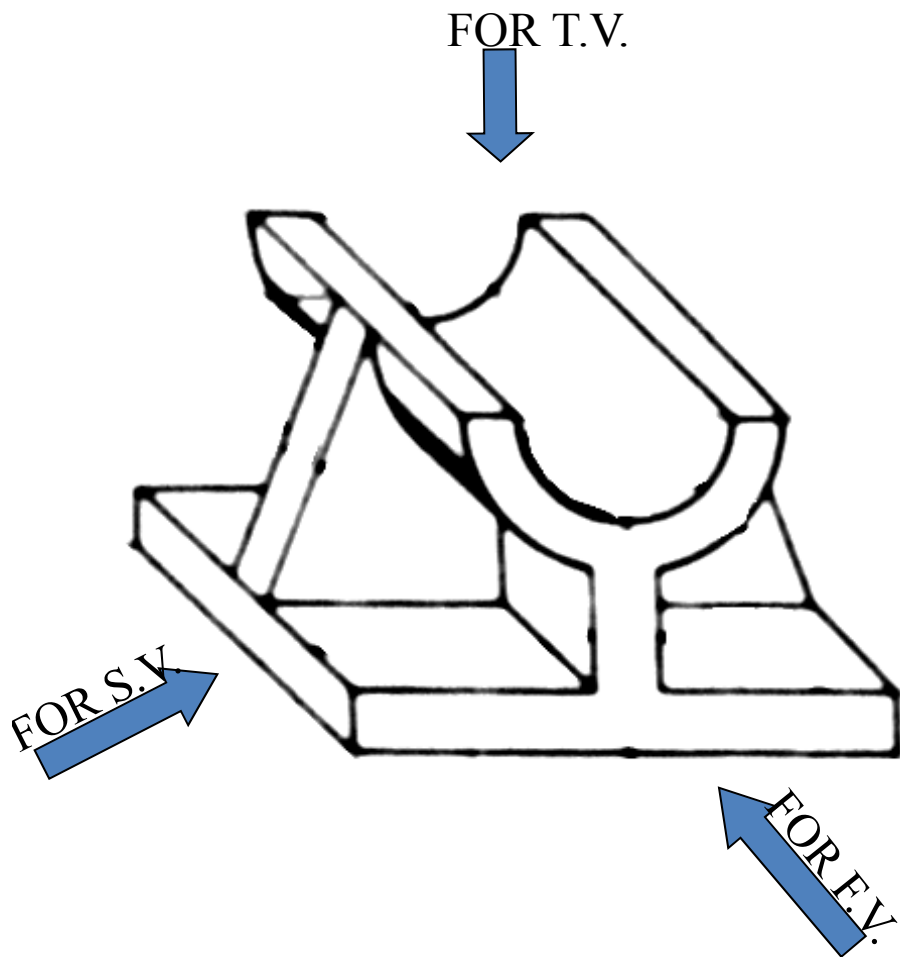
ORTHOGRAPHIC PROJECTIONS



PICTORIAL PRESENTATION IS GIVEN

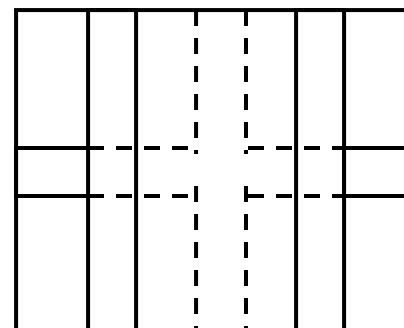
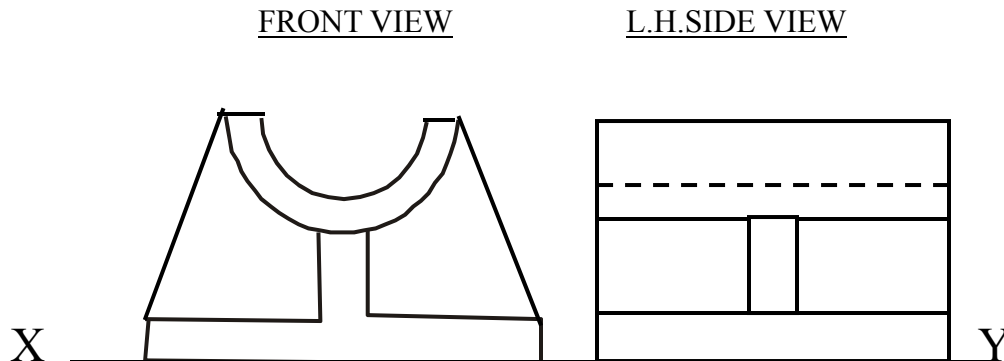
**DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD**

ORTHOGRAPHIC PROJECTIONS



FRONT VIEW

L.H.SIDE VIEW

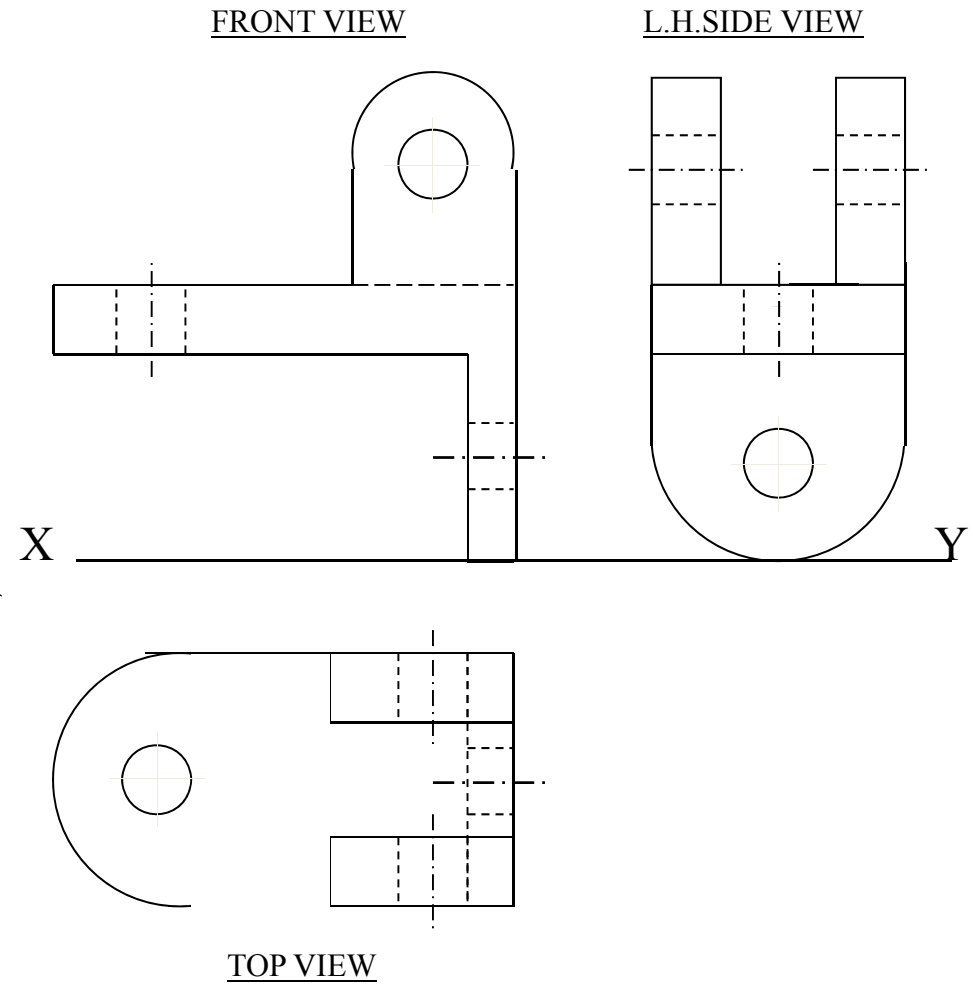
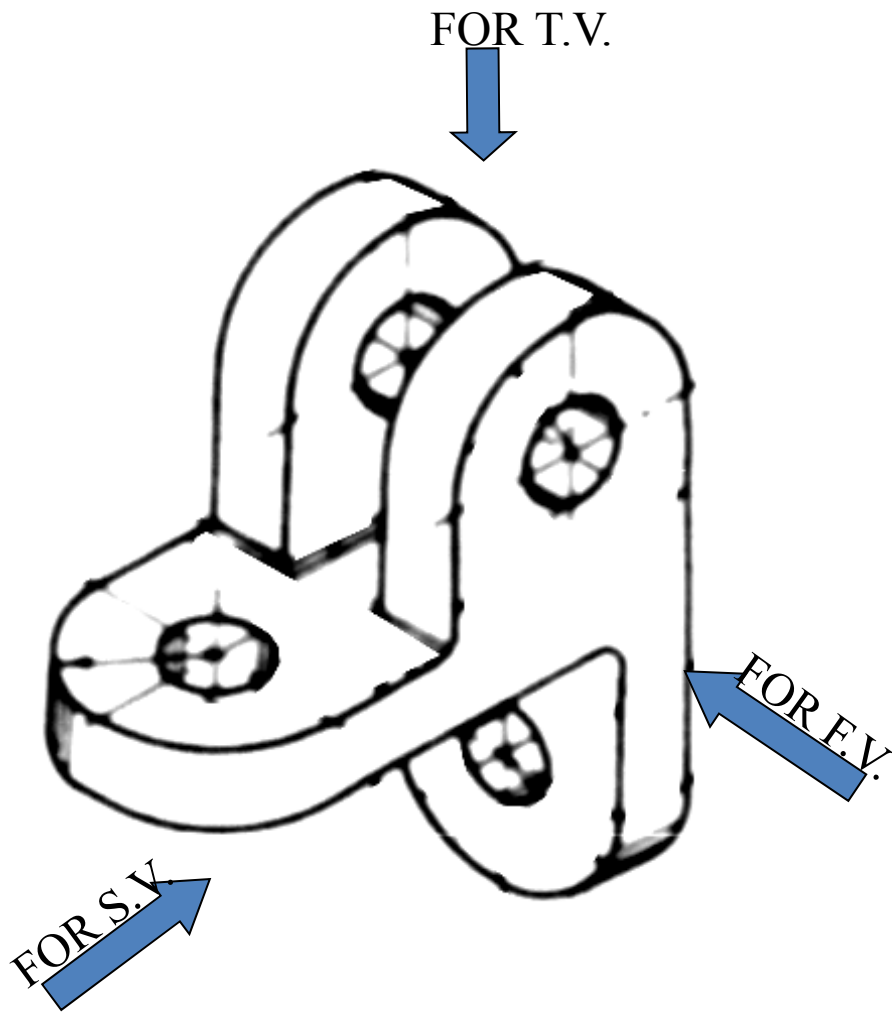


TOP VIEW

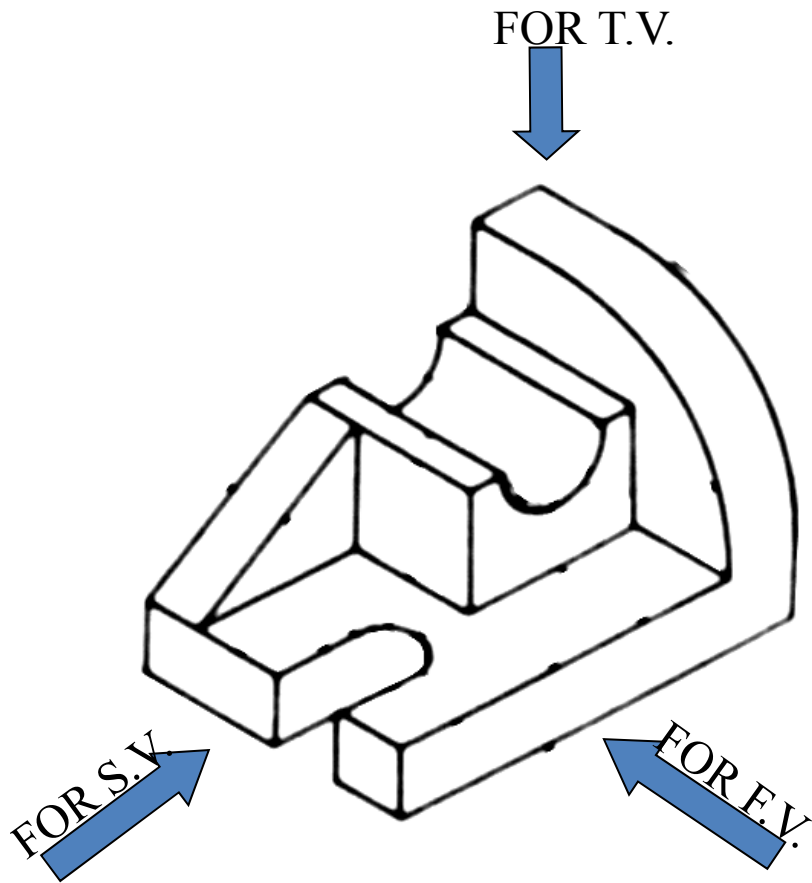
PICTORIAL PRESENTATION IS GIVEN

**DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD**

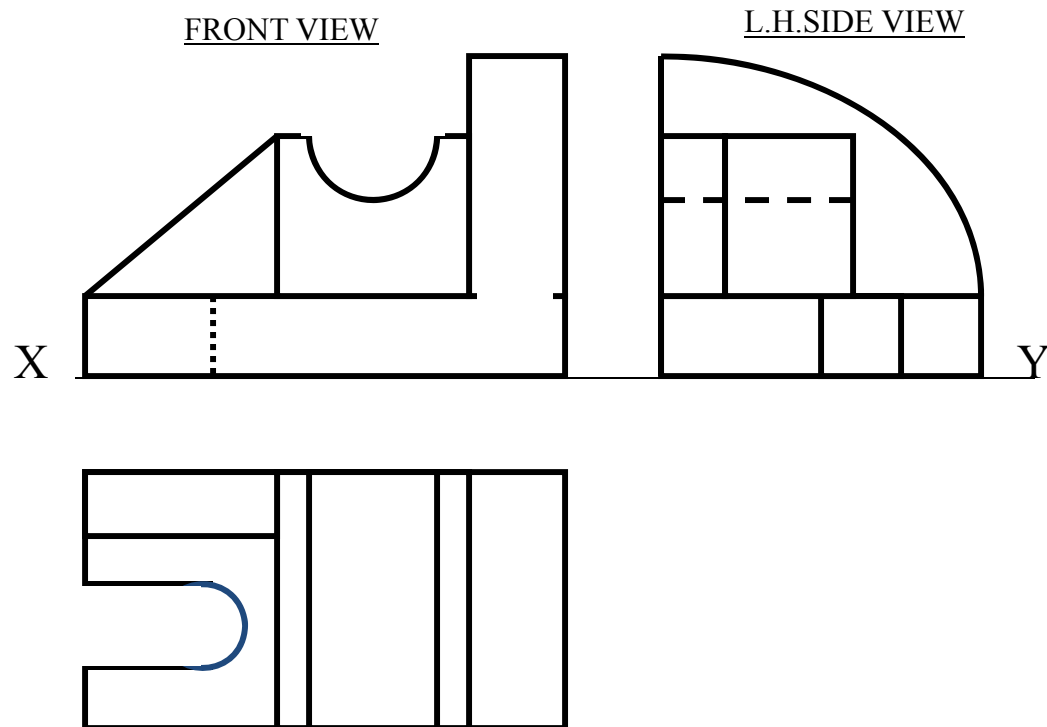
ORTHOGRAPHIC PROJECTIONS



PICTORIAL PRESENTATION IS GIVEN
**DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD**



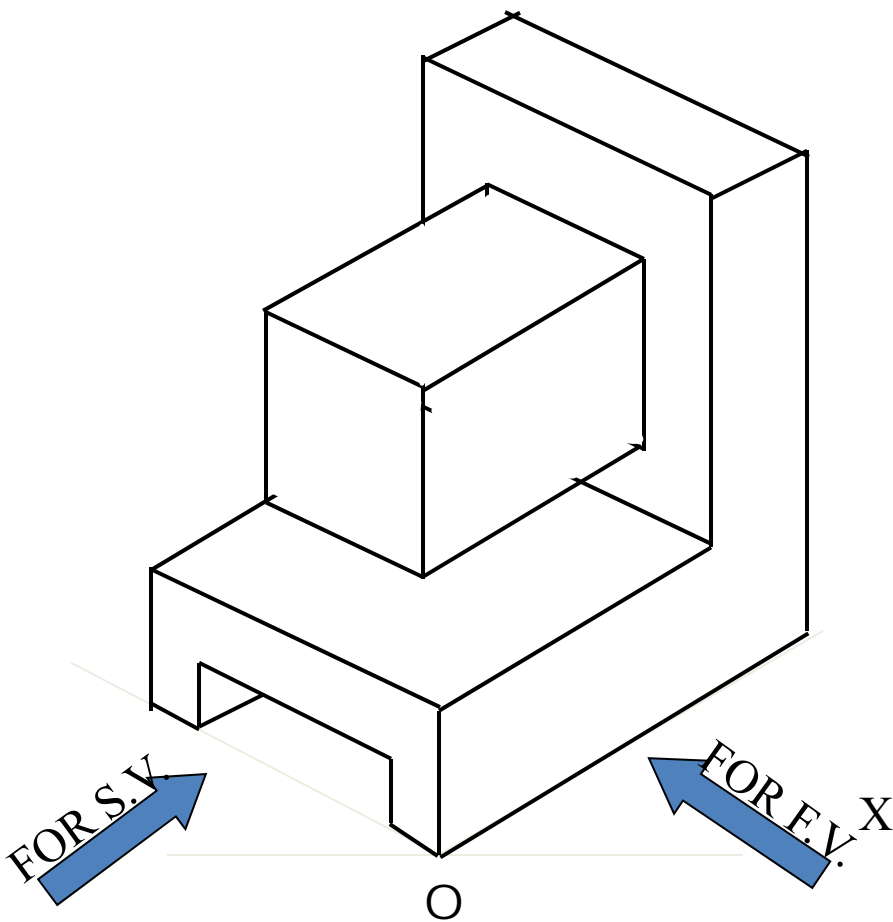
ORTHOGRAPHIC PROJECTIONS



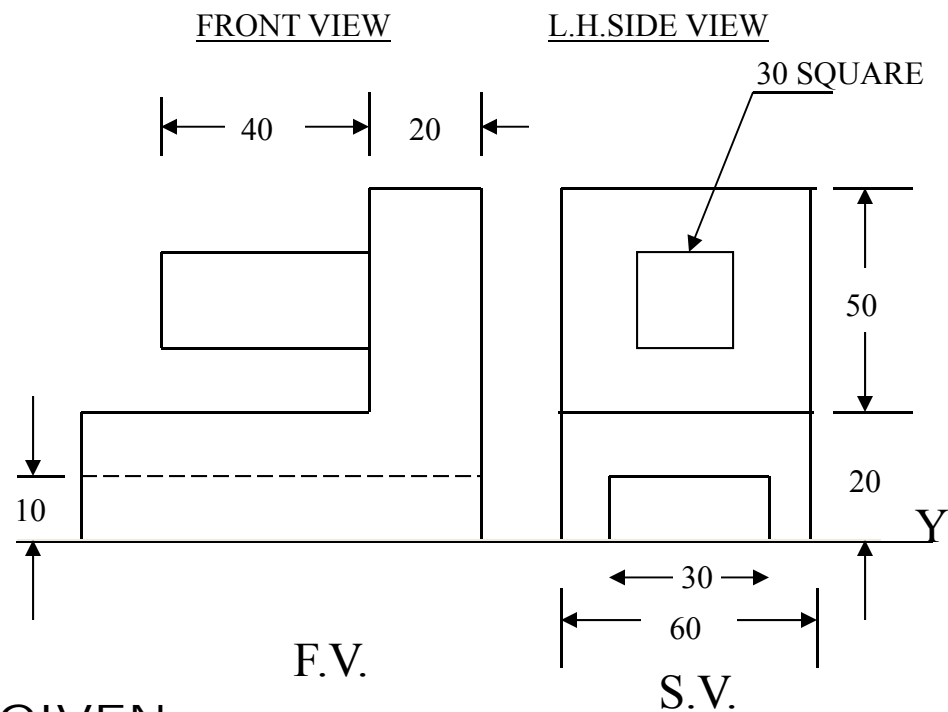
PICTORIAL PRESENTATION IS GIVEN

**DRAW THREE VIEWS OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD**

TOP VIEW



ORTHOGRAPHIC PROJECTIONS



PICTORIAL PRESENTATION IS GIVEN

**DRAW FV AND SV OF THIS OBJECT
BY FIRST ANGLE PROJECTION METHOD**