INTRODUCTION OF PROJECTION AND ORTHOGRAPHIC PROJECTION

TOPICS

- Projections
- Different Types of Projections
- Principal Planes of Projections
- Rotation of Planes
- Orthographic Projections
- First Angle Projection System
- Third Angle Projection System
- Orthographic Projection process

PROJECTION

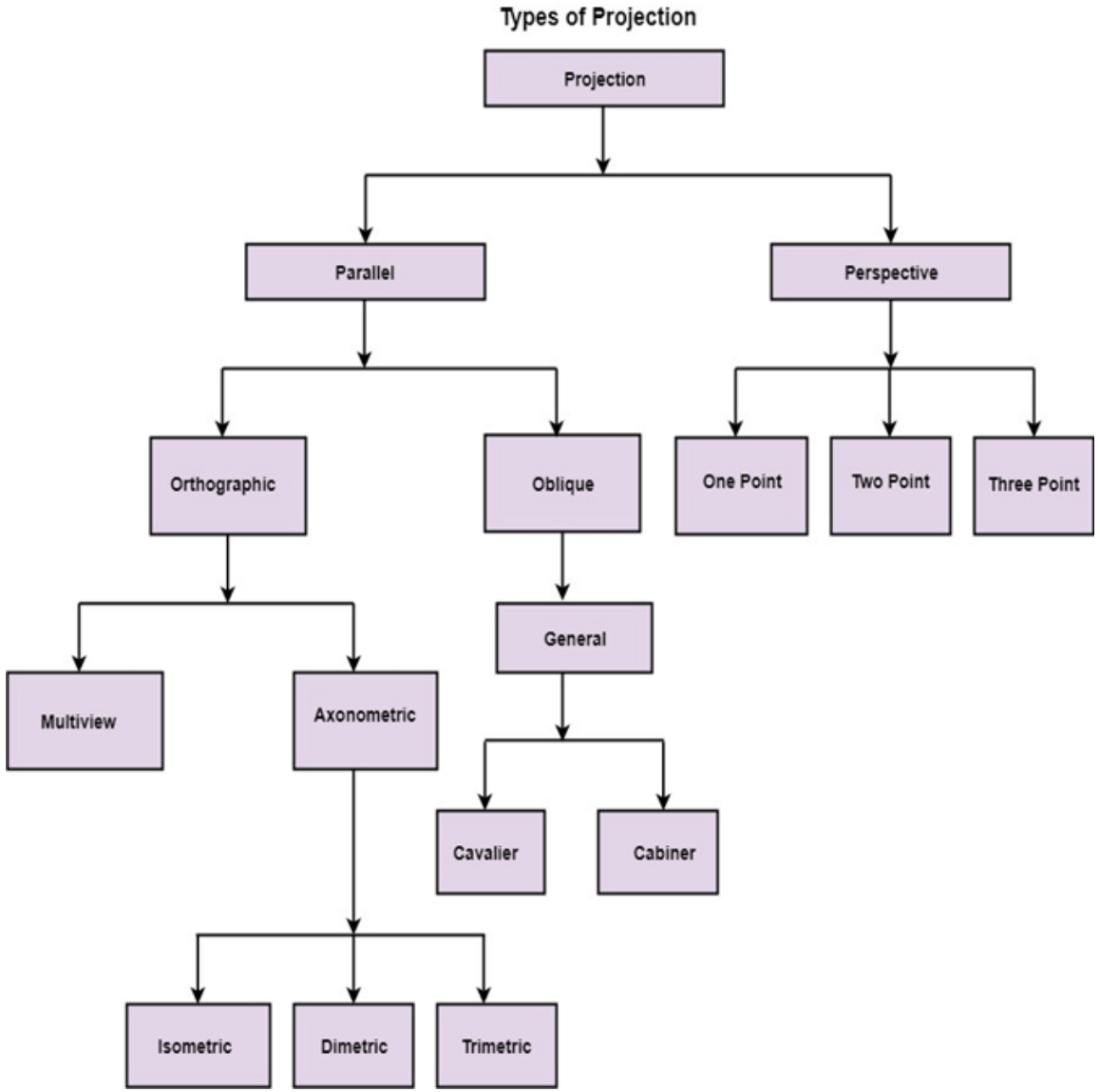
- If straight lines are drawn from various points on the contour of an object to meet a plane, the object is said to be projected on that plane.
- The figure formed by joining, in correct sequence, the points at which these lines meet the plane, is called the projection of the object.
- The lines from the object to the plane are called projectors.
- In engineering practice, representations of a three dimensional object on a two dimensional plane of paper is called projection.
- Projection is done by extending lines of sight called projection lines from the eye of the observer, through points of an object being viewed, to the plane of projection.

DIFFERENT TYPES OF PROJECTIONS

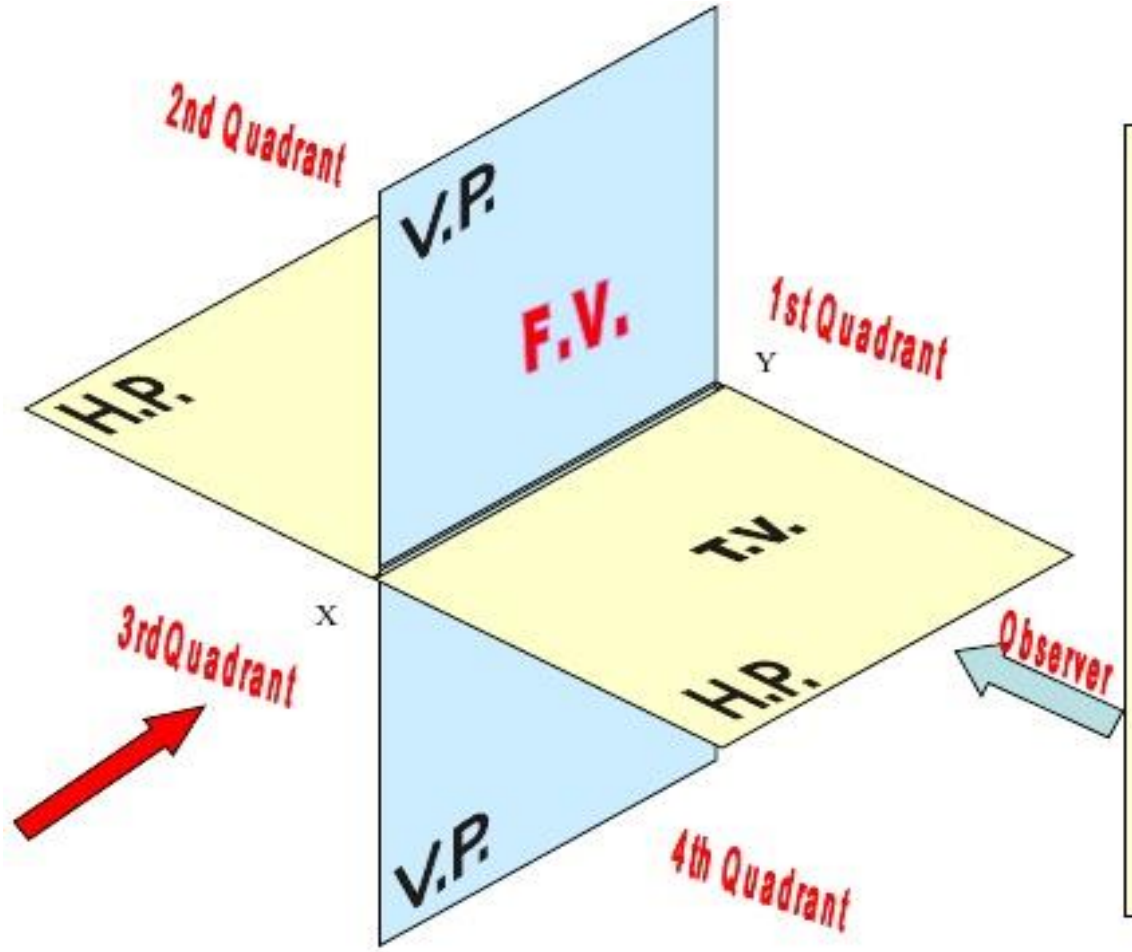
- In engineering drawing Projection method is classified as,

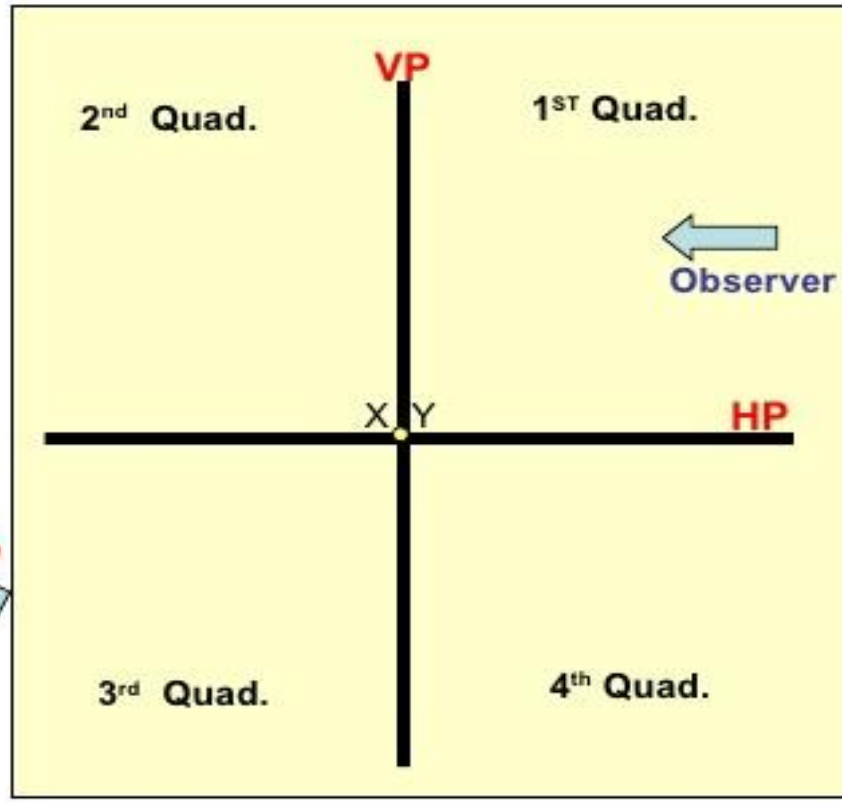
1. Parallel Projection
2. Perspective Projection

DIFFERENT TYPES OF PROJECTIONS



PRINCIPAL PLANES OF PROJECTIONS

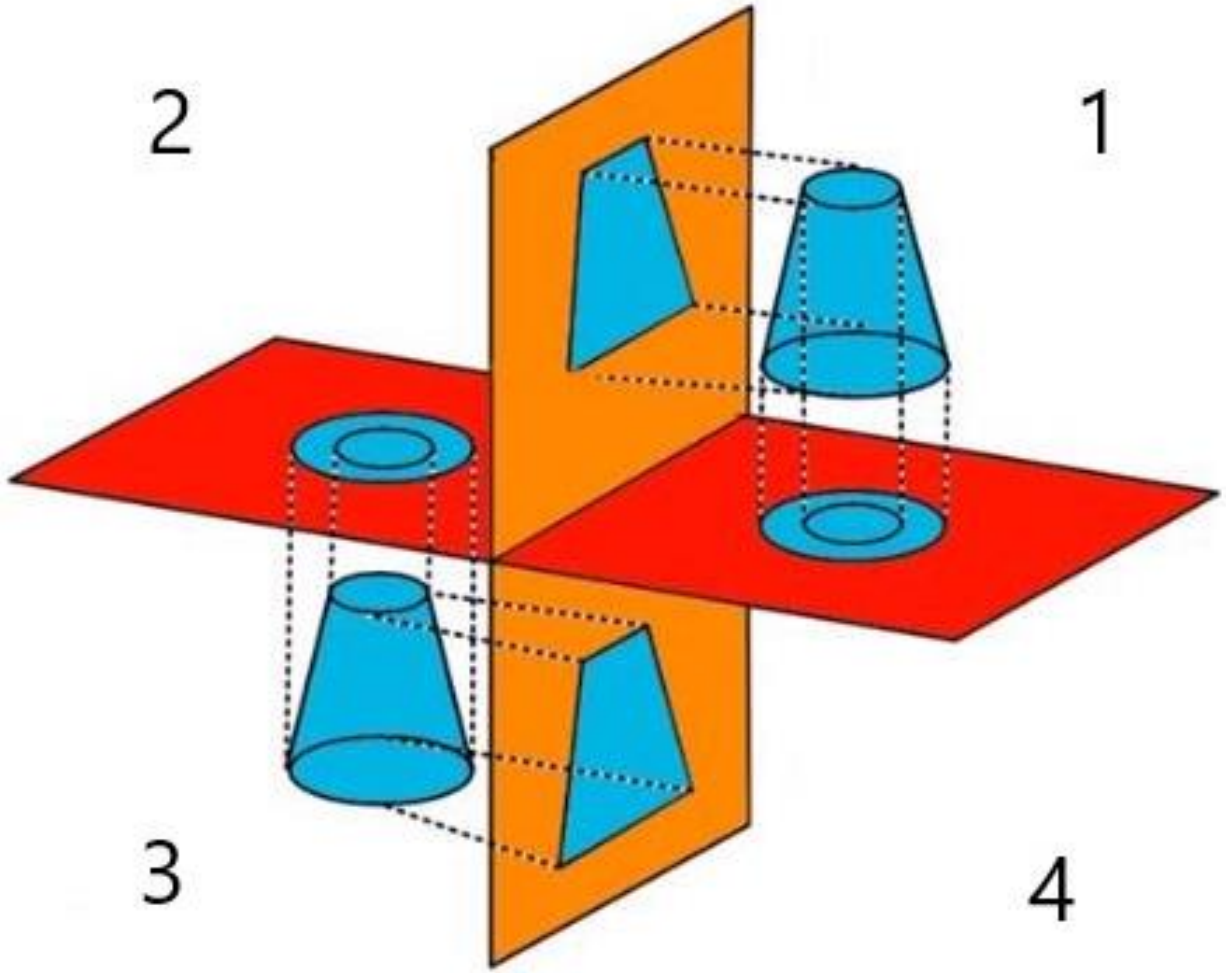




ROTATION OF PLANES

- When the projection of an object have been made on the various planes, they are brought together on a single sheet of paper by rotating the planes.
- " The standard practice of rotation of planes is to keep the VP fixed and to rotate HP and PP in clockwise direction and away from the object so that they may come in line with VP."

FIRST ANGLE AND THIRD ANGLE PROJECTION METHODS



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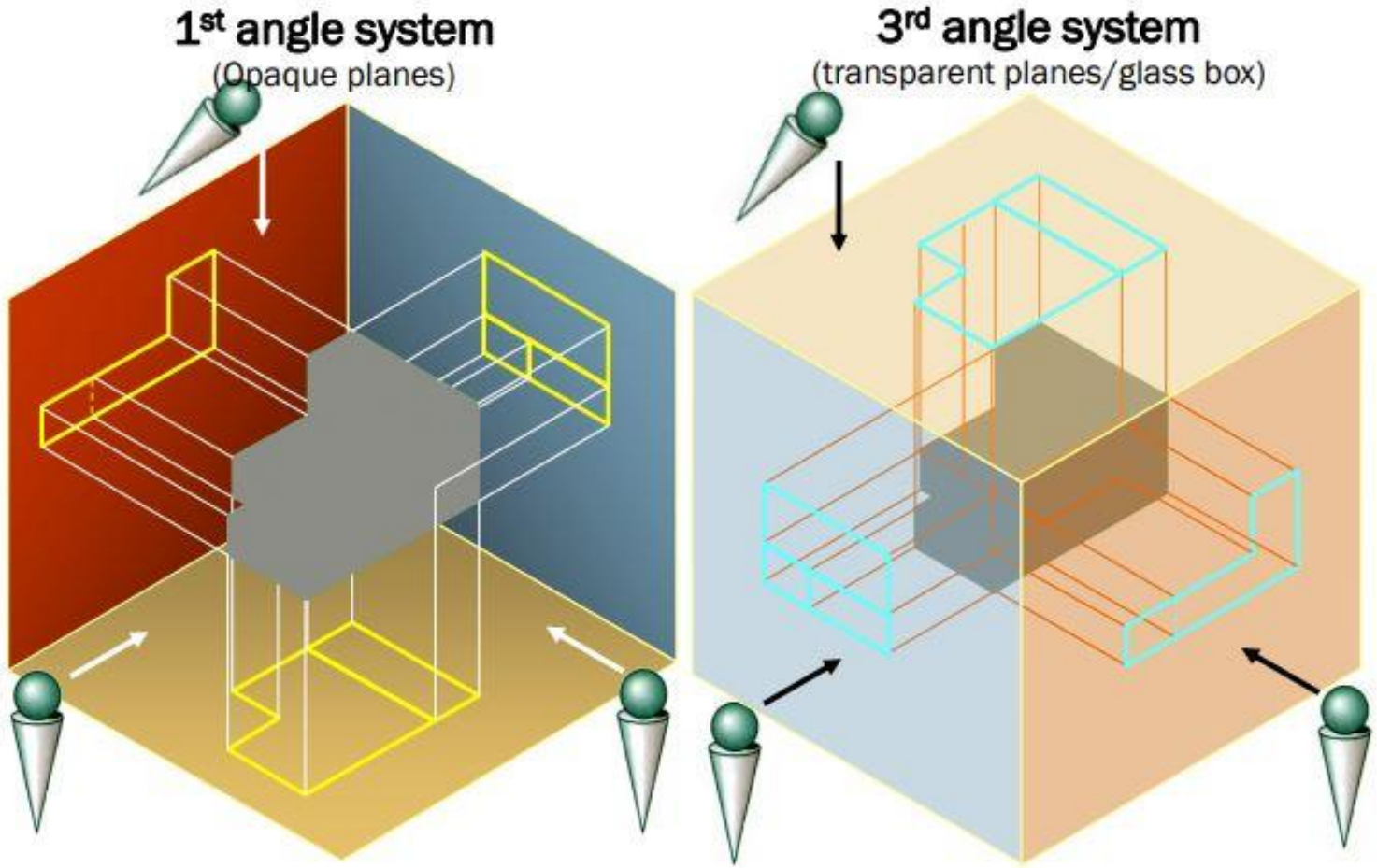

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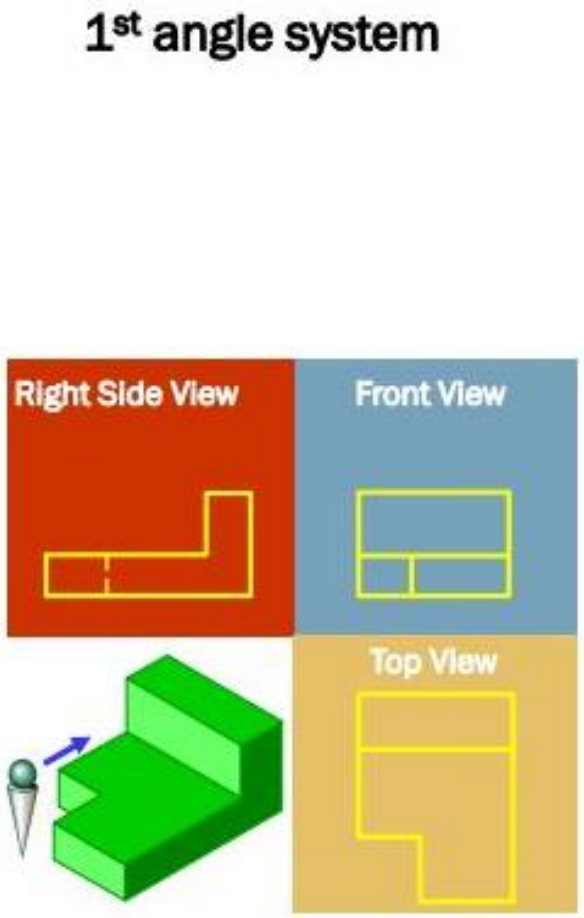

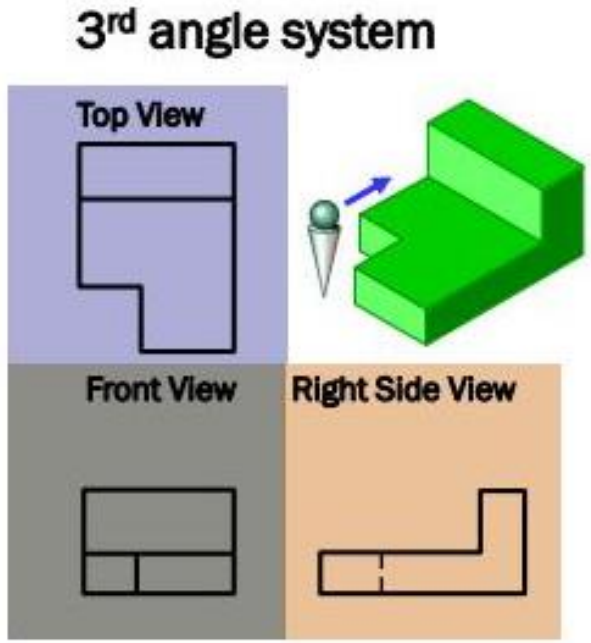

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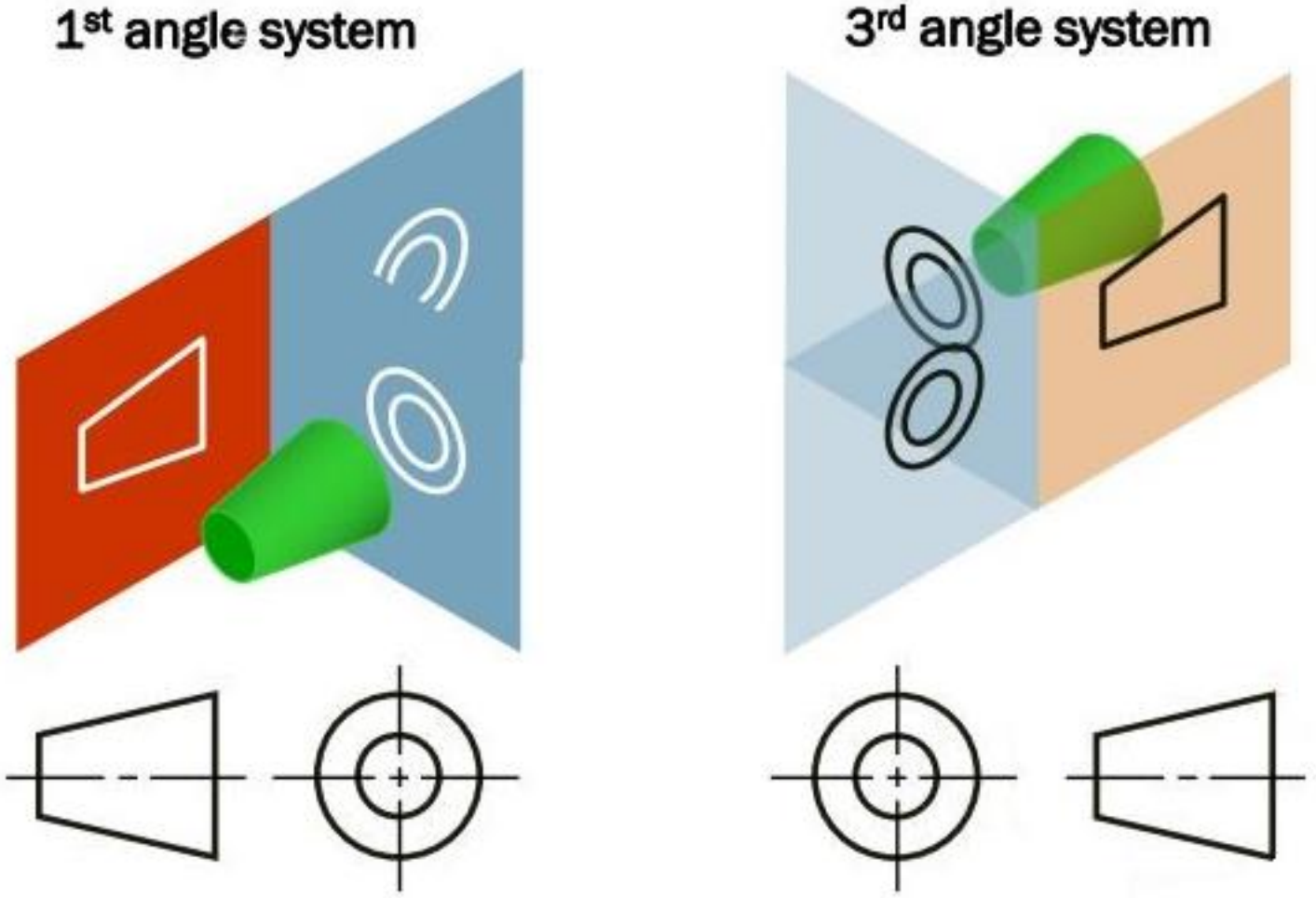
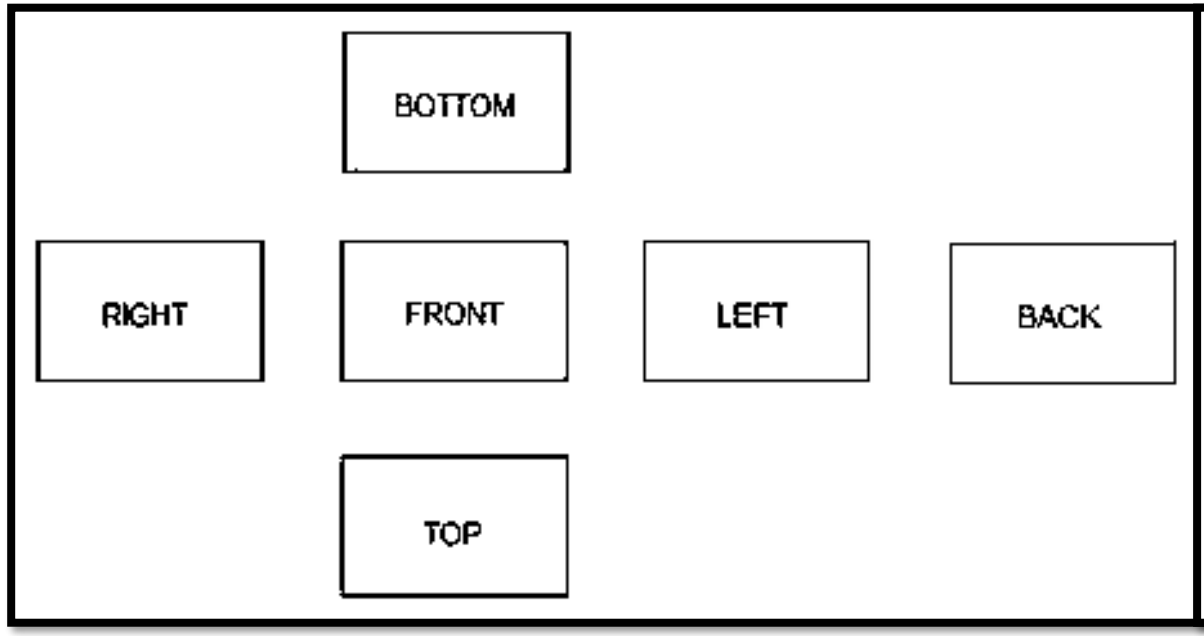
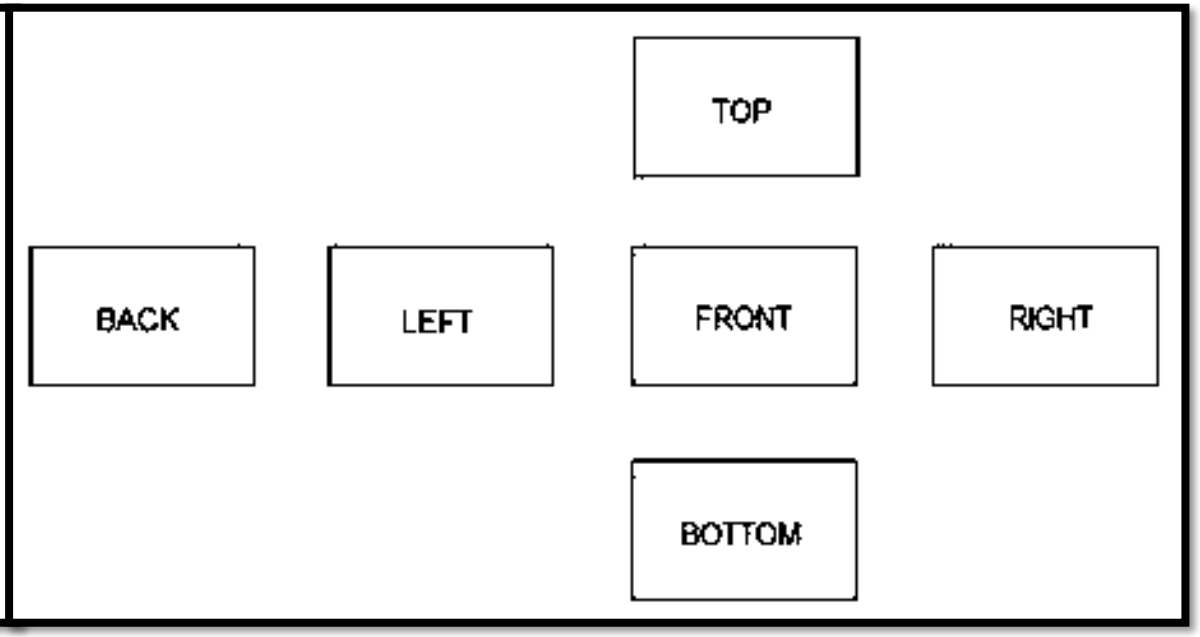


FIRST ANGLE AND THIRD ANGLE PROJECTION METHODS

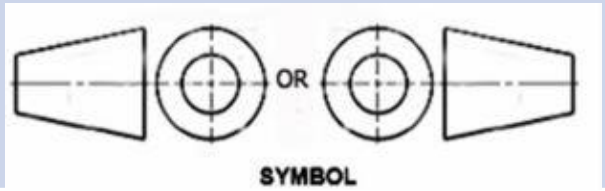
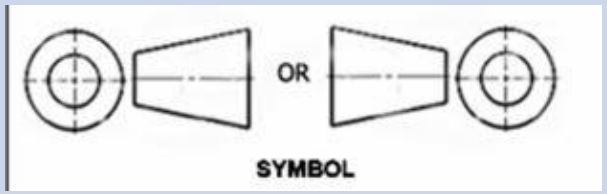
First Angle System



Third Angle System



FIRST ANGLE AND THIRD ANGLE PROJECTION METHODS

NO	FIRST ANGLE METHOD	THIRD ANGLE METHOD
1	The object is kept in the first quadrant	The object is assumed to be kept in the third quadrant.
2	The object lies between the observer and the plane or projection.	The plane of projection lies between the observer and the object.
3	The plane of projection is assumed to be non-transparent/opaque.	The plane of projection is assumed to be transparent.
4	FV is above xy line and TV is below xy line	FV is below xy line and TV is above xy line.
5	The LHSV remains to the Right of the FV	The LHSV remains Left to the FV
6	The RHSV remains to the Left of the FV	The RHSV remains to the Right of the FV
7	 SYMBOL	 SYMBOL

ORTHOGRAPHIC PROJECTION

- Views Of Orthographic Projection:

There are three main views of Orthographic projection such as:

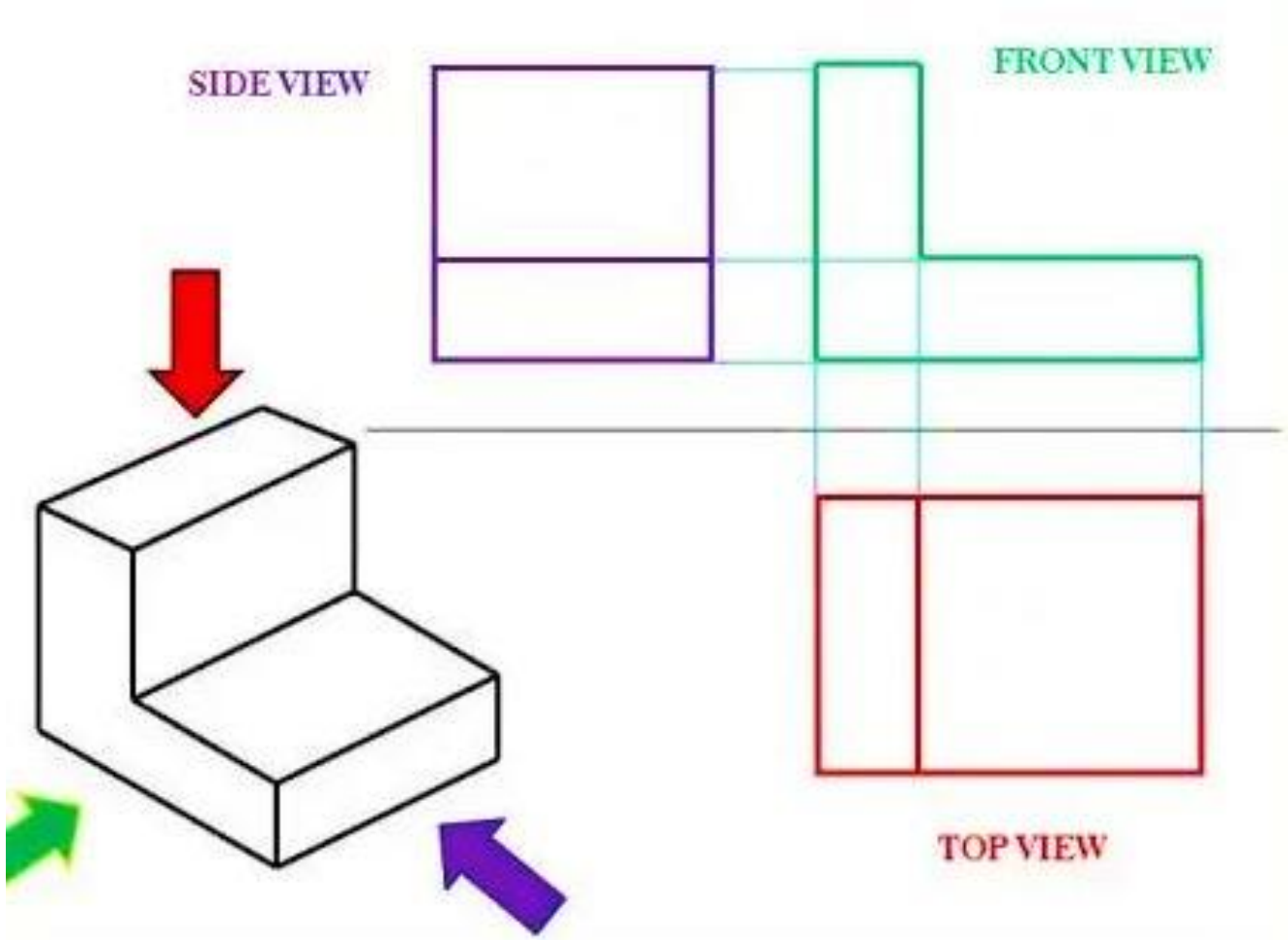
1. Front View: These views are prepared by placing the object in front and in this view the height and length of the object are shown.
2. Top View: By looking at the object from the upper side this view is prepared and in this view length and breadth of an object are shown.
3. Side View: By looking to the object from the left side or right side this view is prepared and in this view breadth and height of an object is shown.

ORTHOGRAPHIC PROJECTION

- While forming orthographic drawings following rules should be followed;

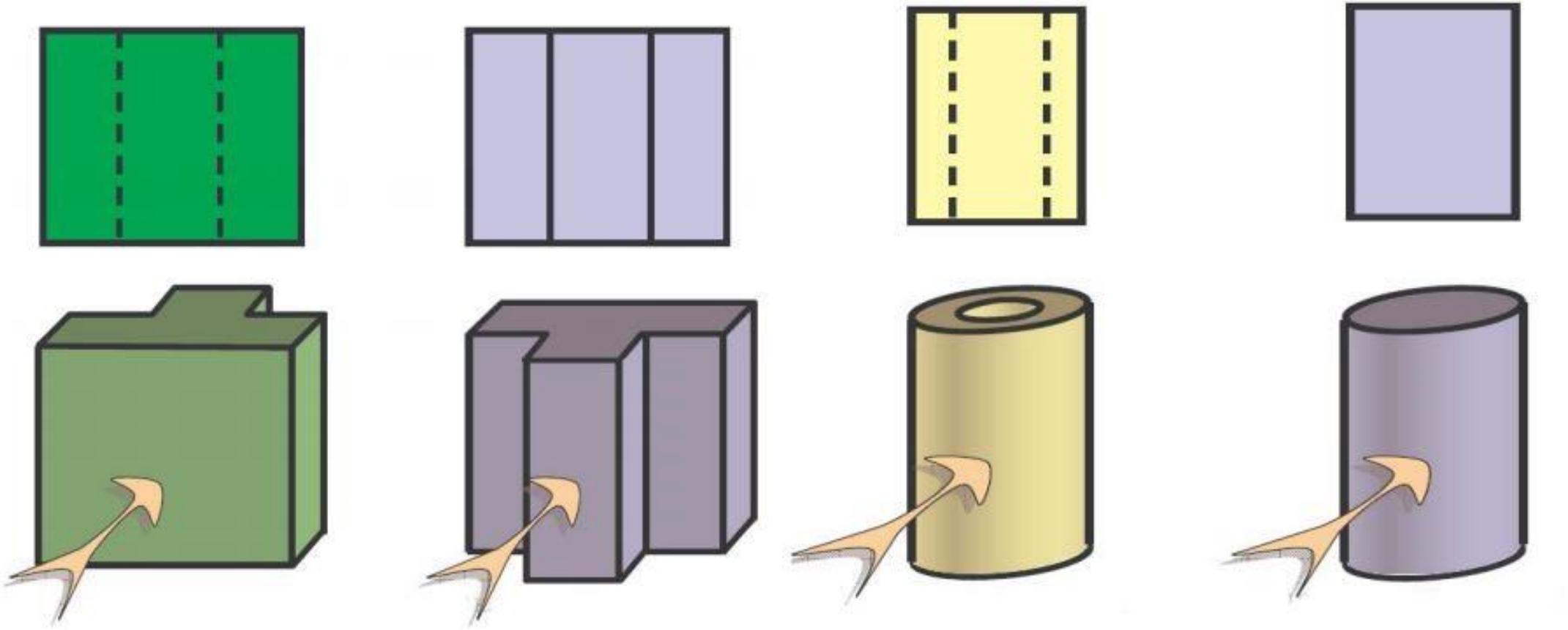
1. Top view and front view always form over each other.
2. The length and height of an object are shown in the front view.
3. The breadth and height of an object is shown by side view.
4. The length and breadth of an object is shown by the top view.
5. Beside the front view side view always forms.
6. By dotted line the hidden detail of an object is always shown.

ORTHOGRAPHIC PROJECTION



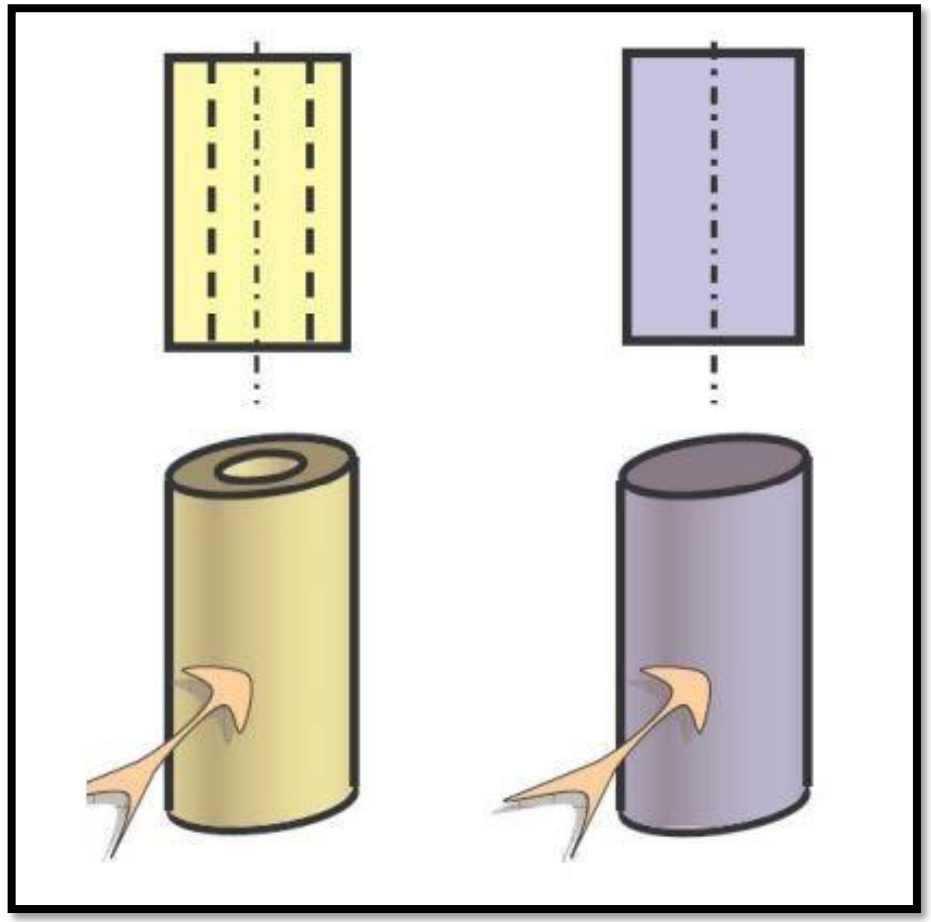
ORTHOGRAPHIC PROJECTION

Hidden Line

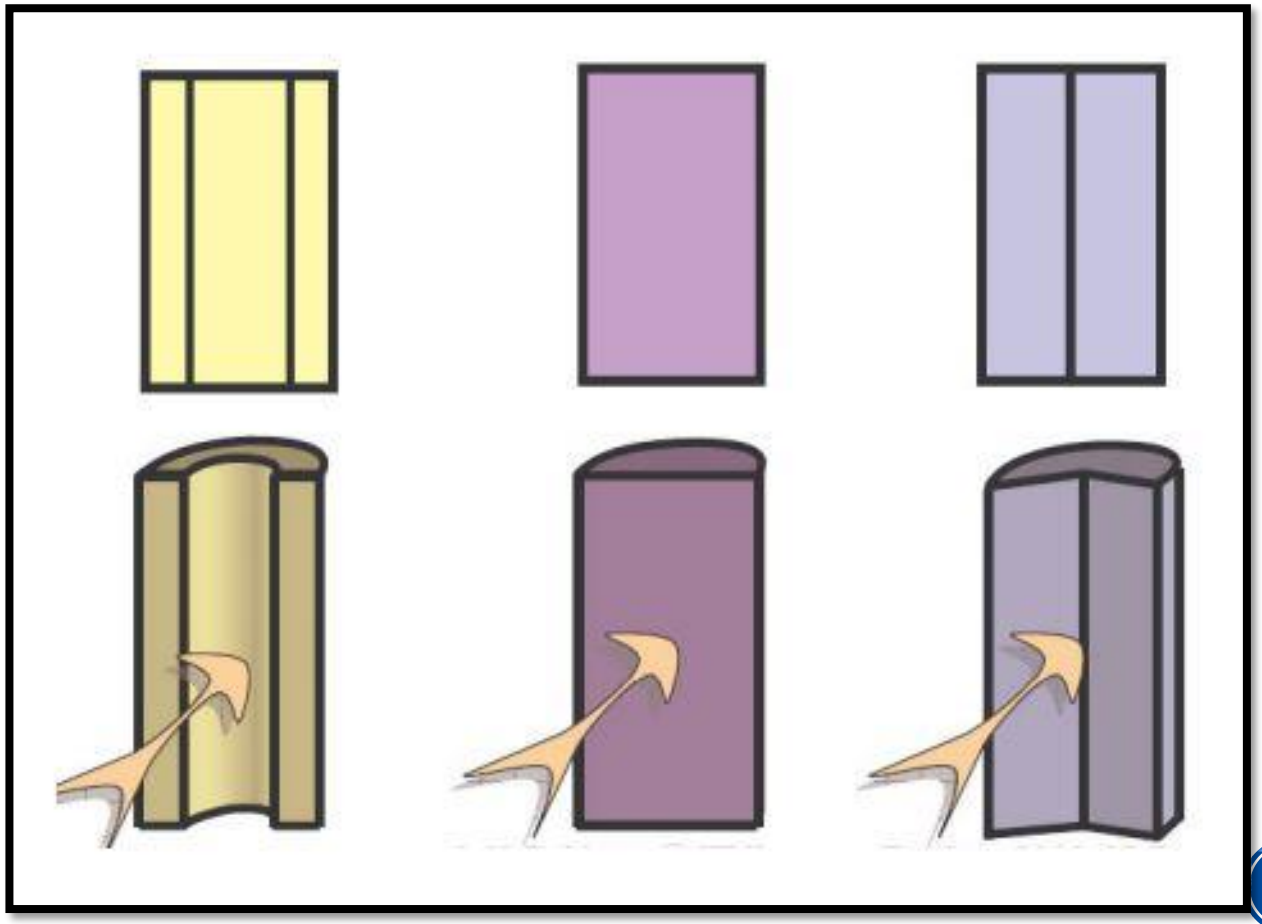


ORTHOGRAPHIC PROJECTION

Centre Line



When two Surfaces Meets



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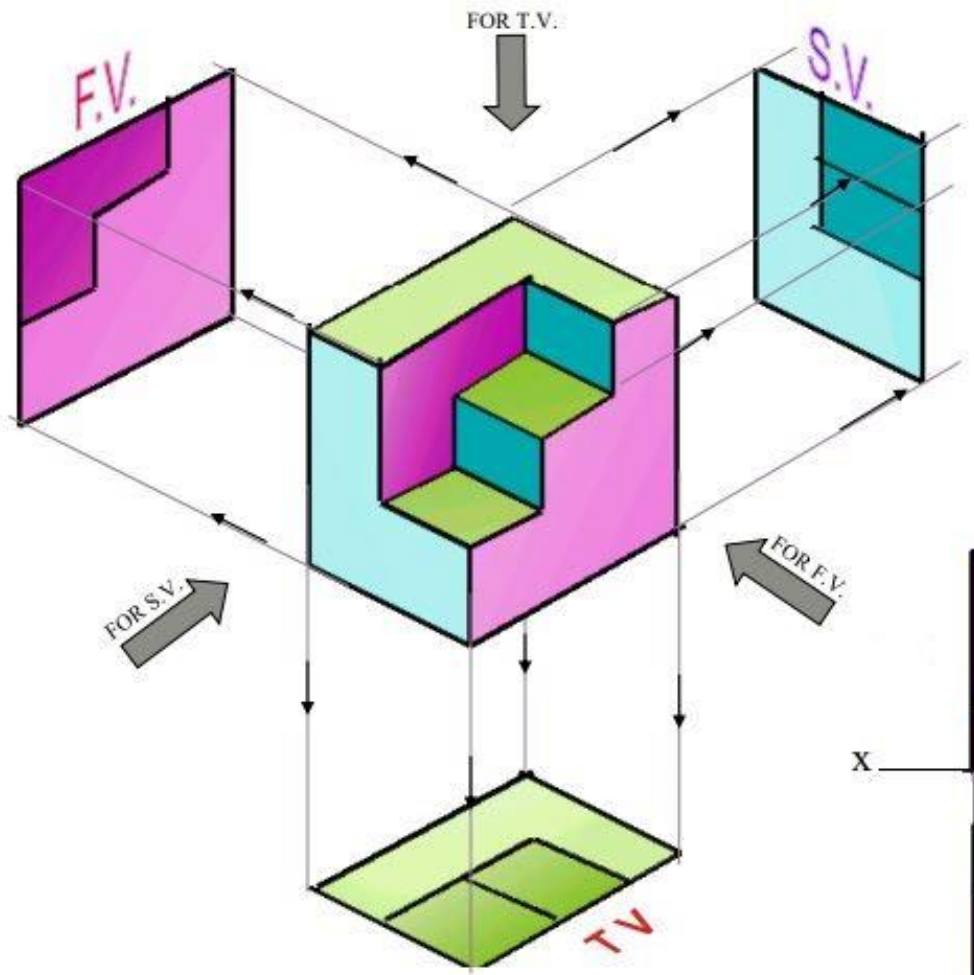

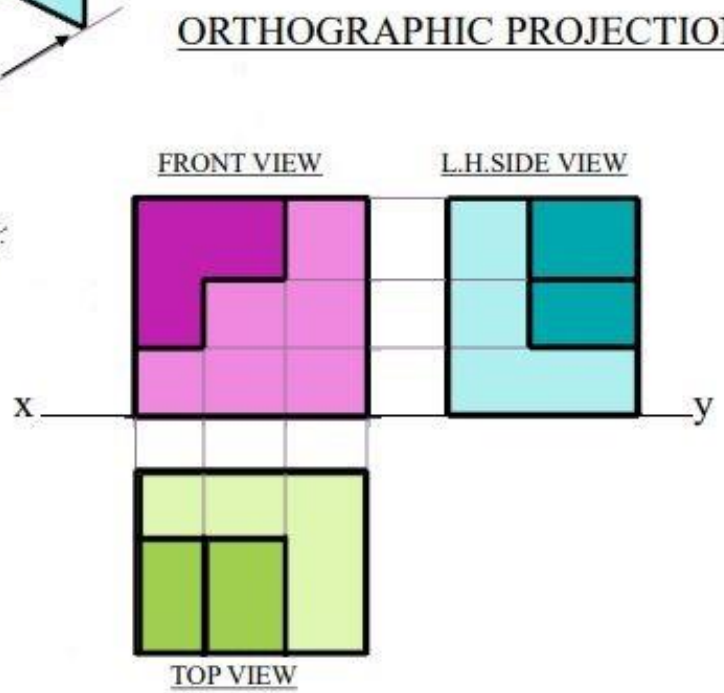

THANK YOU