



CE 181103

**1st Semester
Civil & Chemical
Engg.**

Engineering Graphics and Design

**M-2: Projection Plan Layout
& Symbols of Projection**

Prepared By,

ARINDOM DAS

Assistant Professor

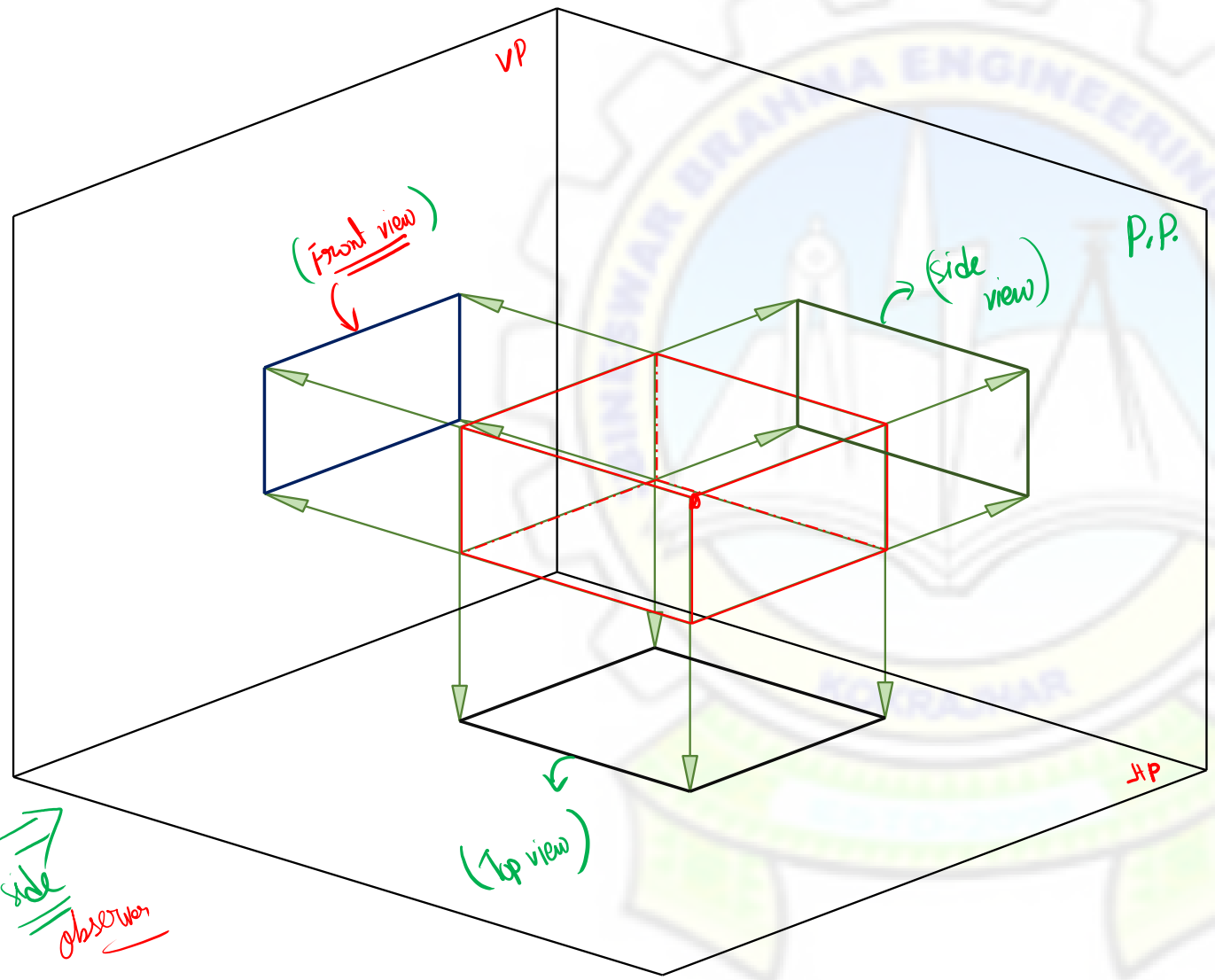
Dept. of Civil Engineering


(Bineswar Brahma Engineering College)

* 1st angle projection:

Top  Obser

 layout of projection planes



 Observer \rightarrow object \rightarrow P. DP
(Locations)

side
Observer

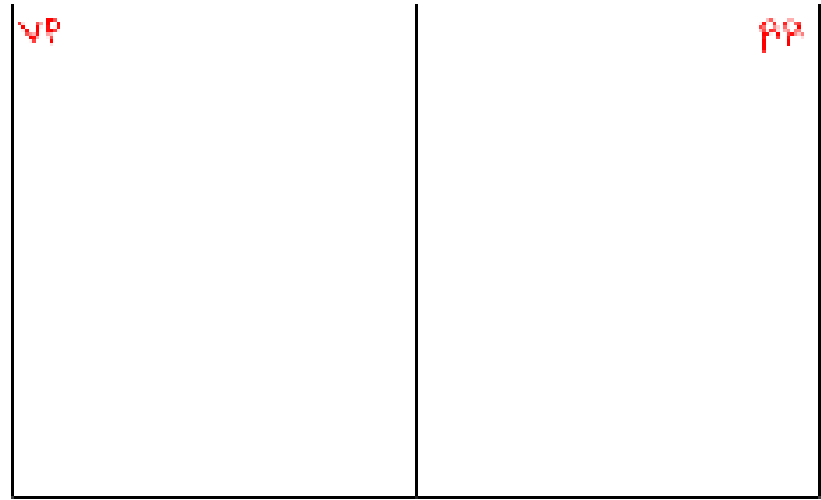
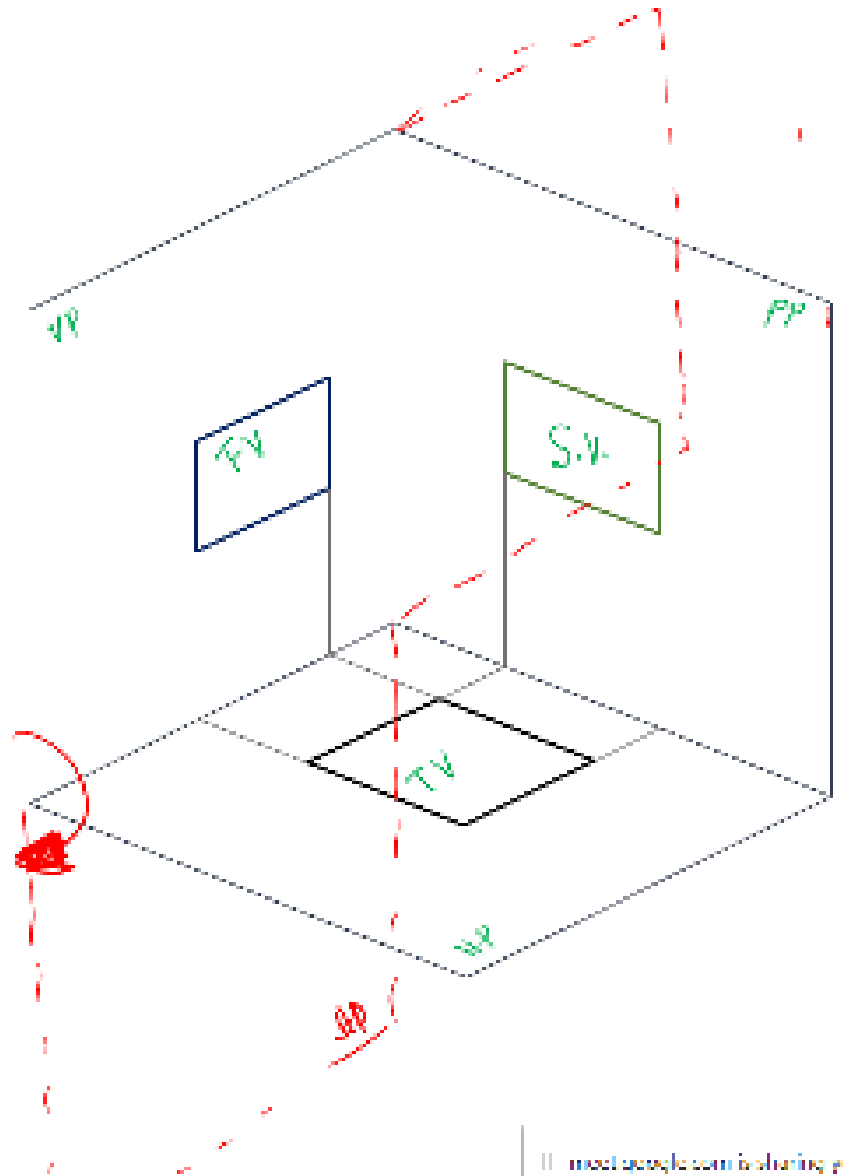
Obser

Front

* Rotation protocol: To draw all the projection planes in 1

- ① Rotate the HP by 90° in clockwise direction
- ② Rotate the VP by 90° in anticlockwise direction,

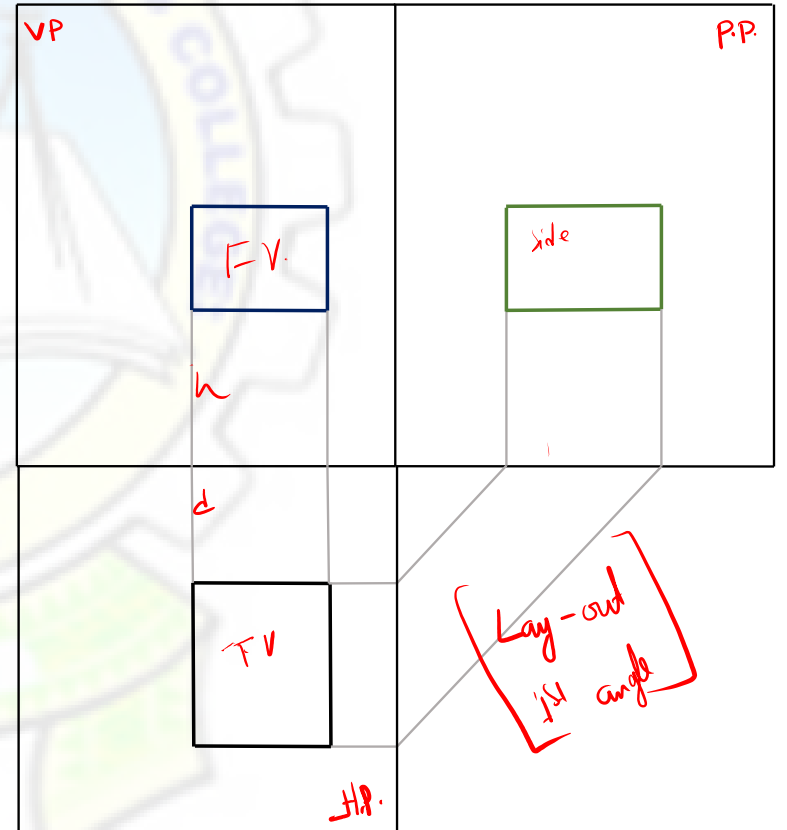
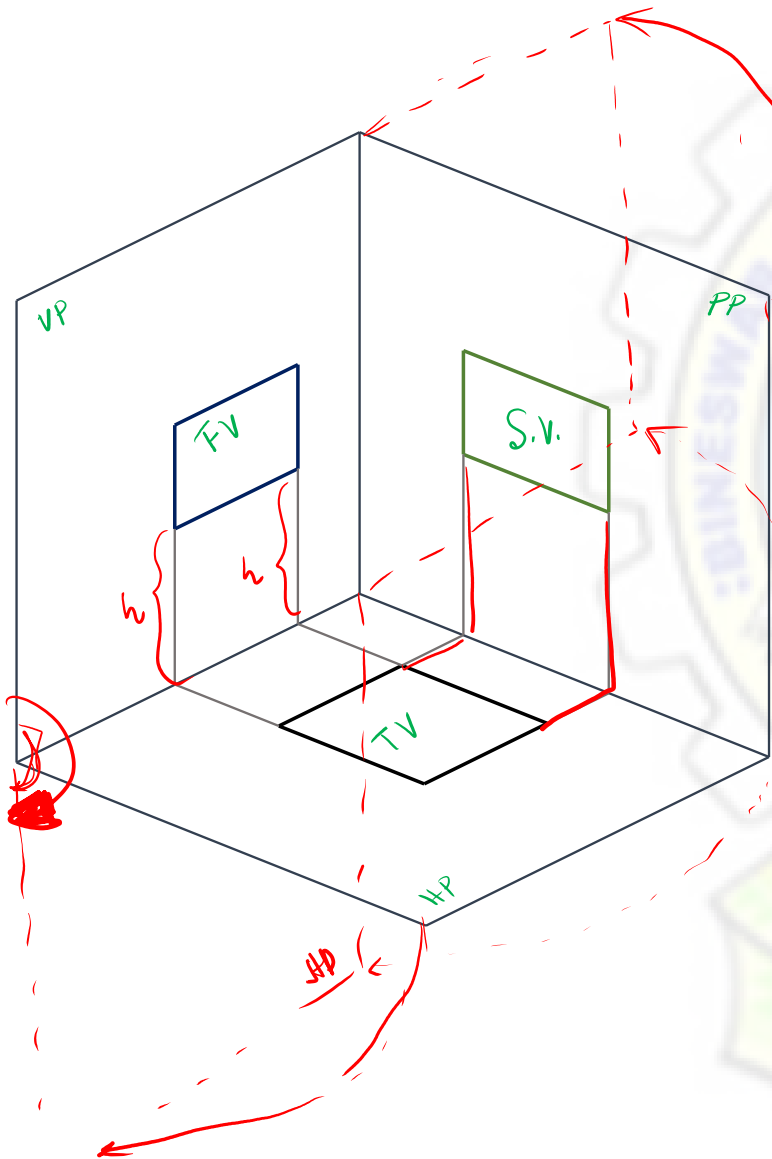
(1st angle) ✕



Lay-out
1st angle

* Rotation protocol: To draw all the projection planes in 2-D.

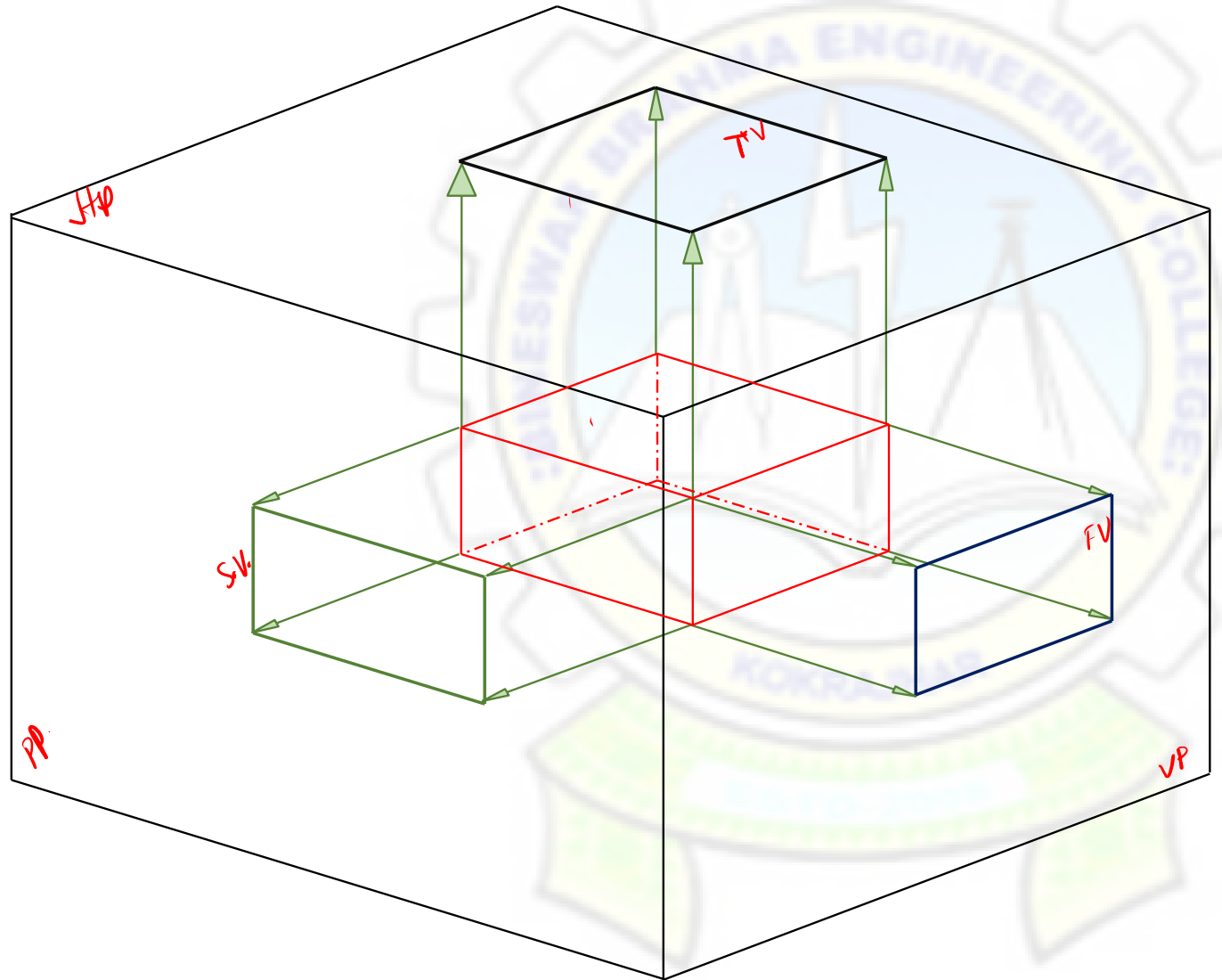
- ① Rotate the HP by 90° in clockwise direction
- ② Rotate the P.P by 90° in anticlockwise direction.

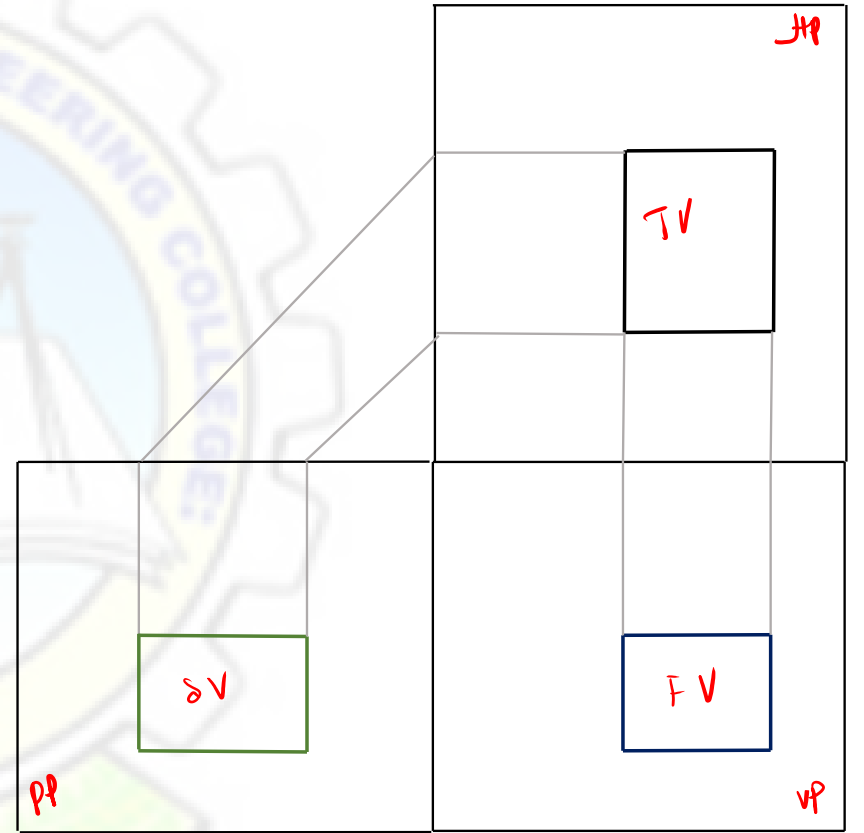
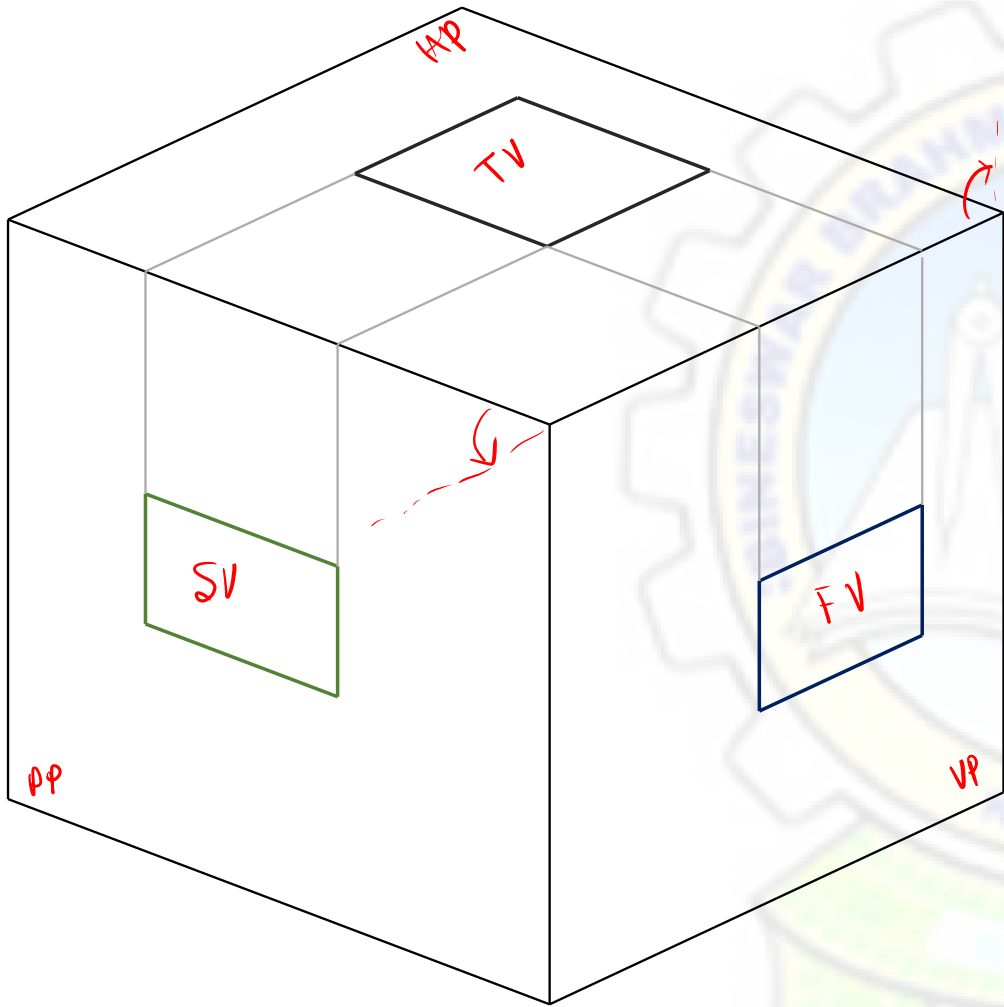


* 3rd angle projection:



(*) All P.O.P should be transparent



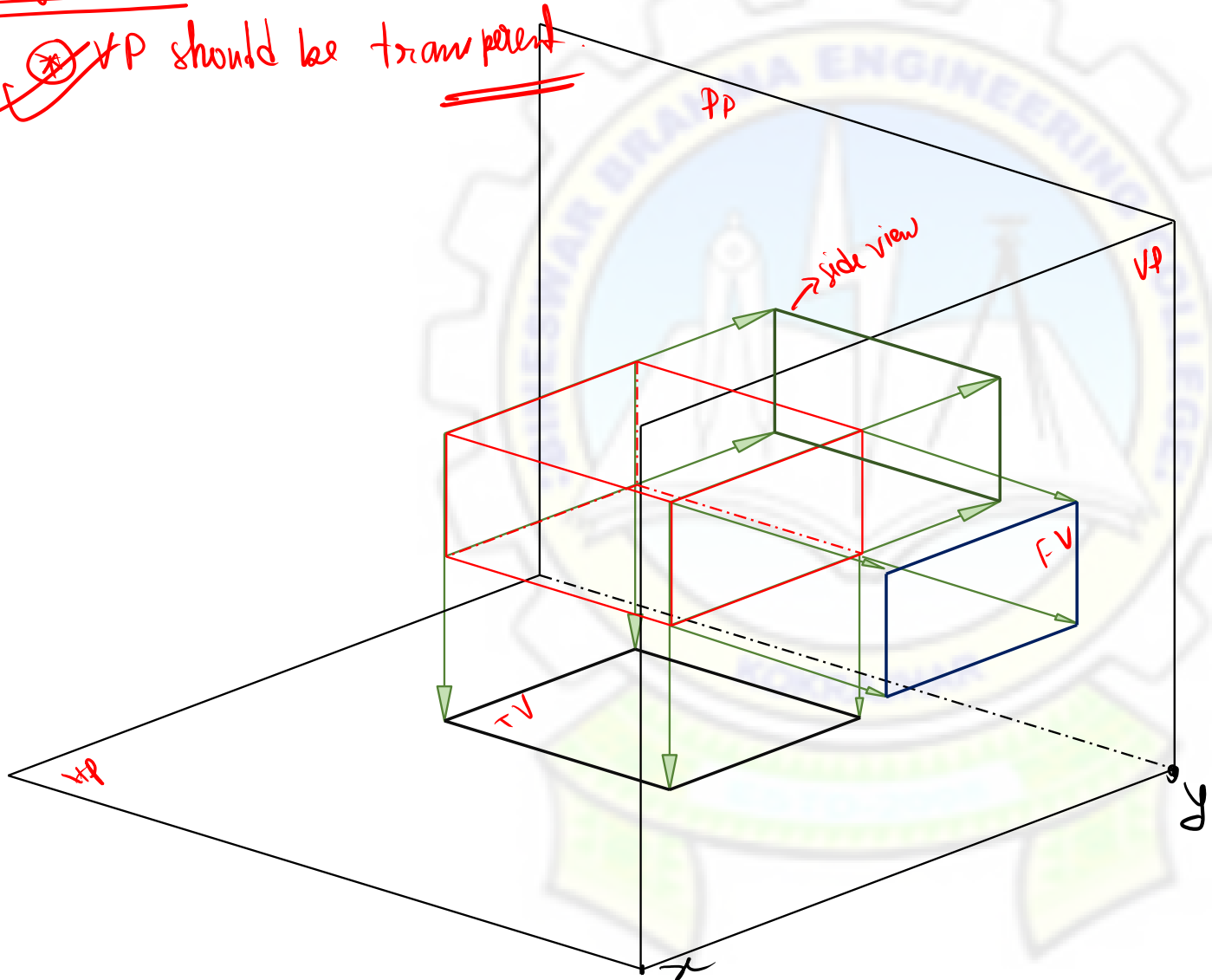


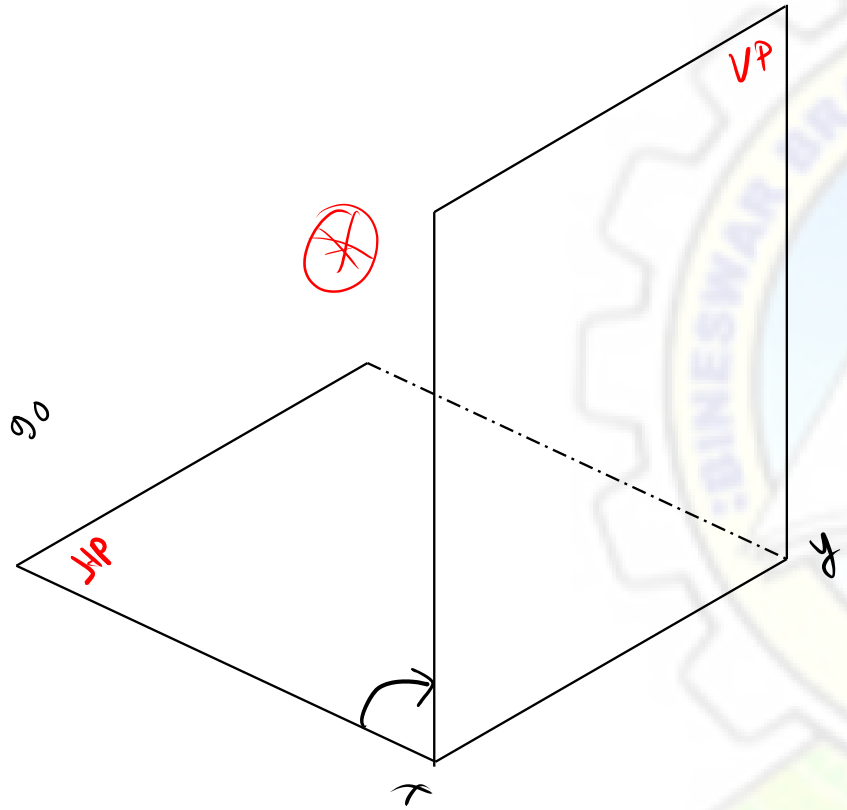
2nd angle projection

2nd angle projection

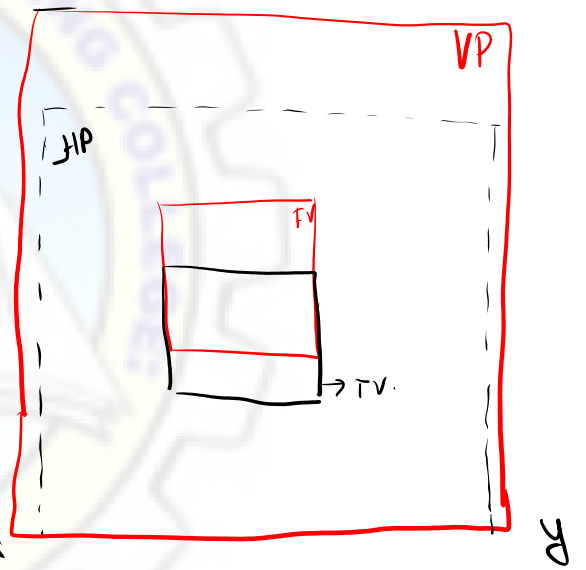
VP should be transparent

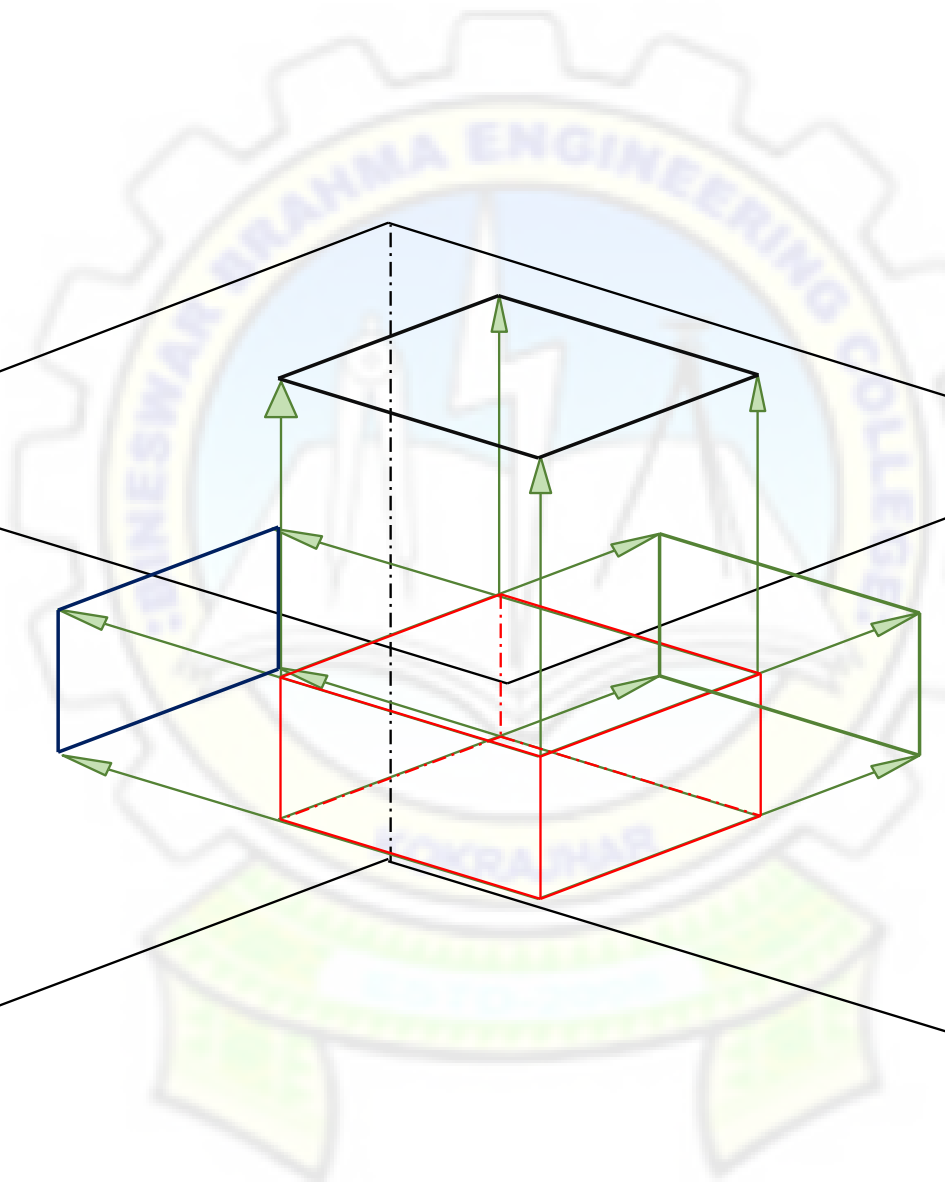
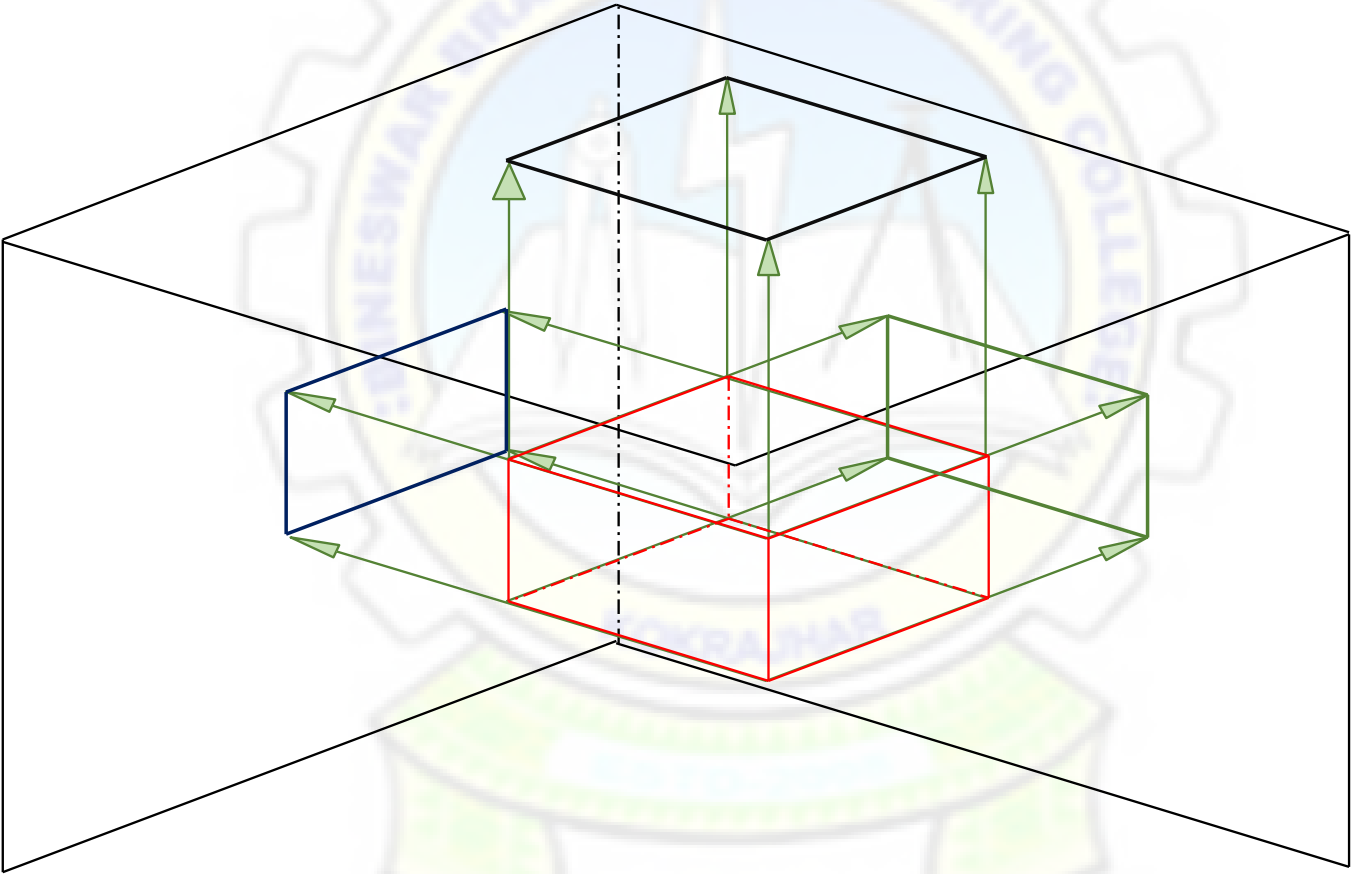
⊗ HP & VP both are above
ref. line.



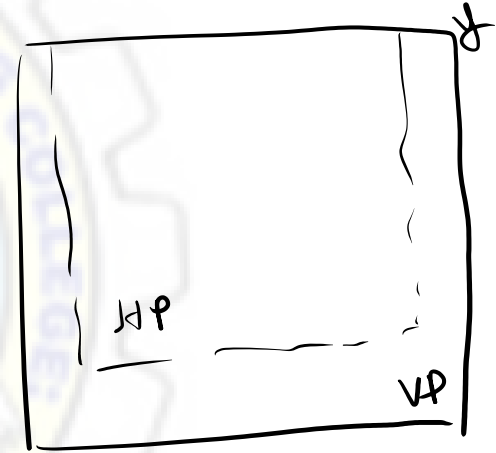
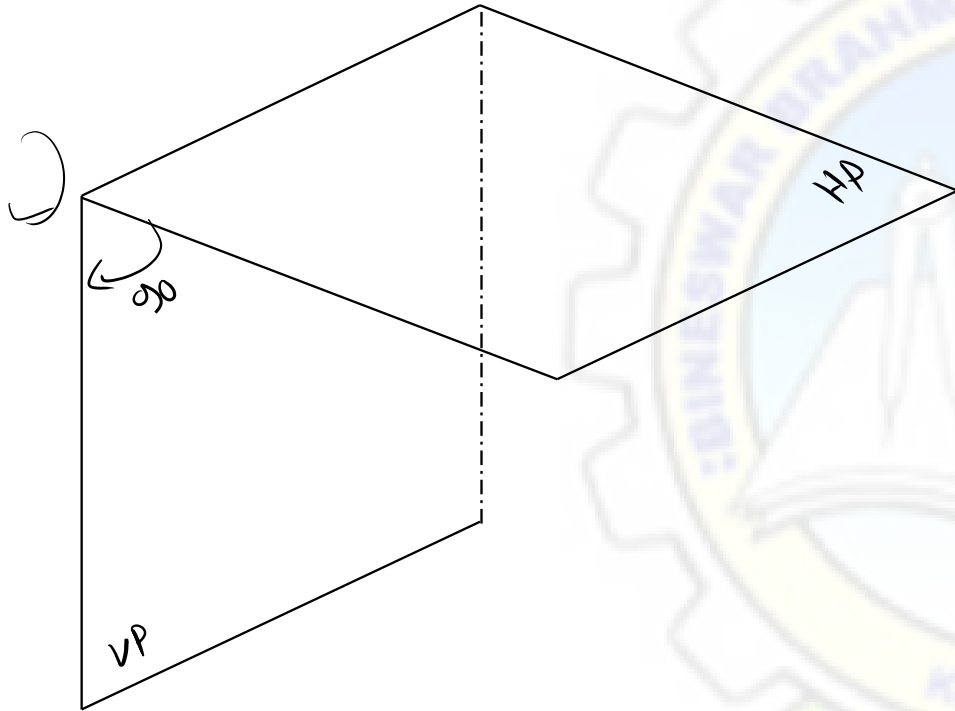


2nd

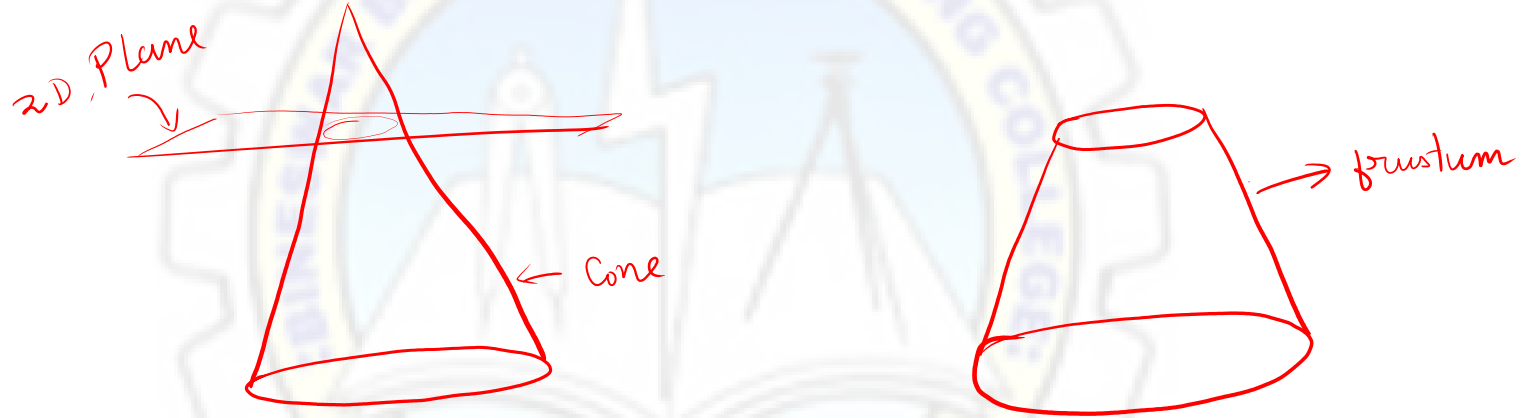




4th angle projection \rightarrow HP, VP both are below ref. line.

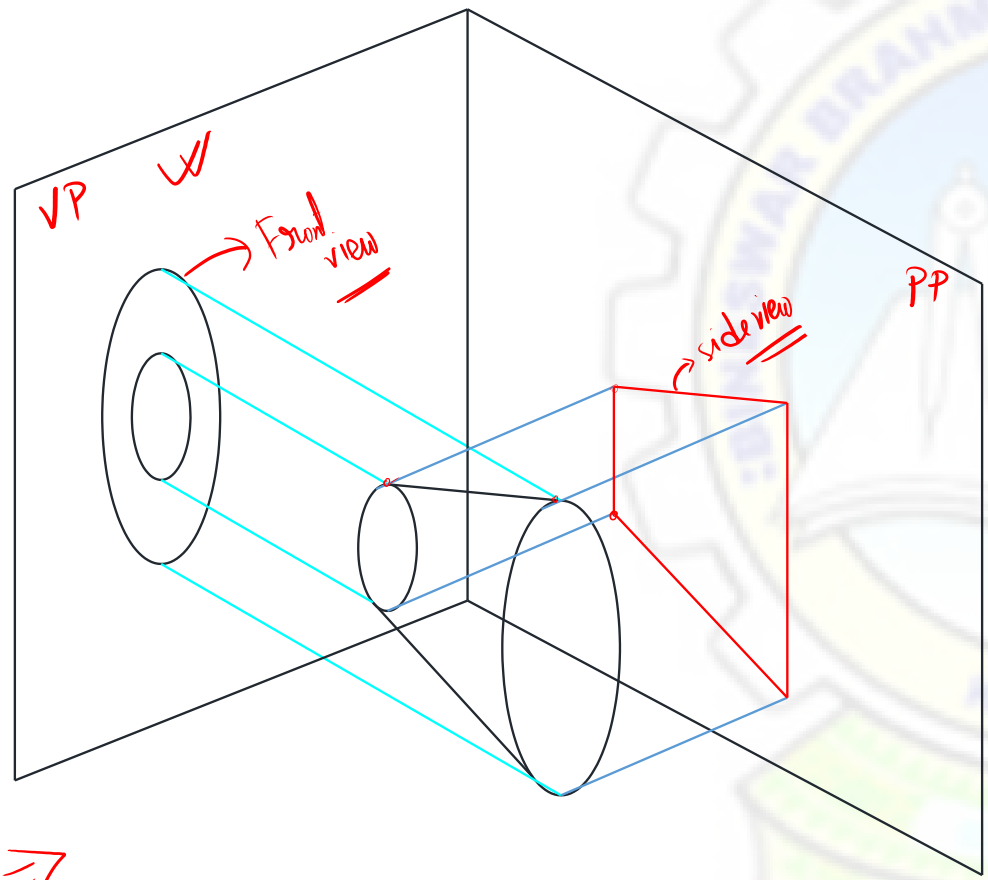


Symbols of 1st and 3rd angle projection:

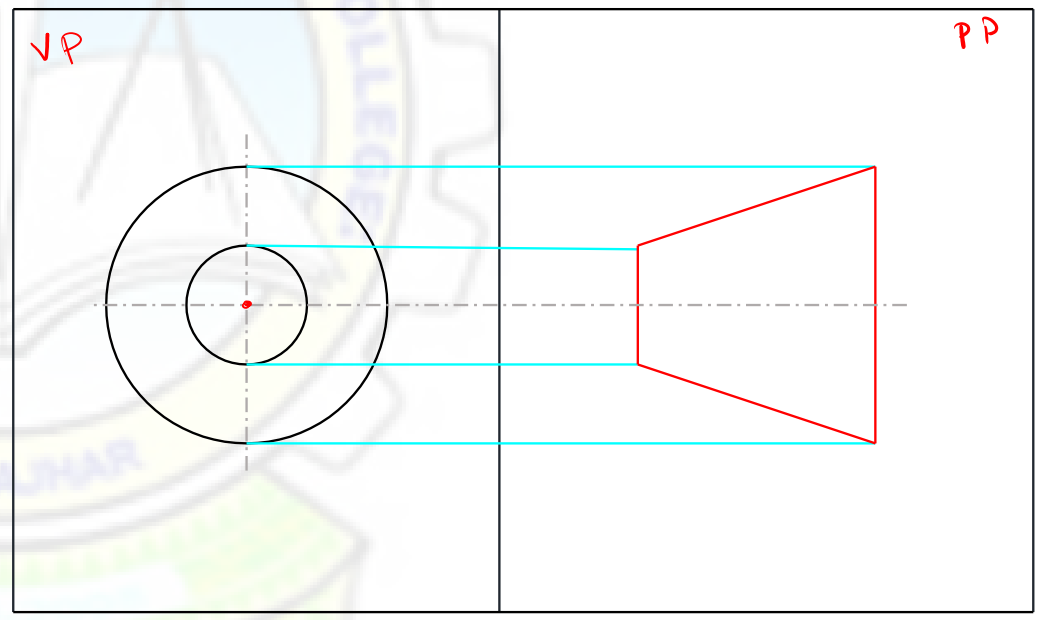


- * To prepare the symbols the front & side view of a frustum are used. as shown in the next slides :->

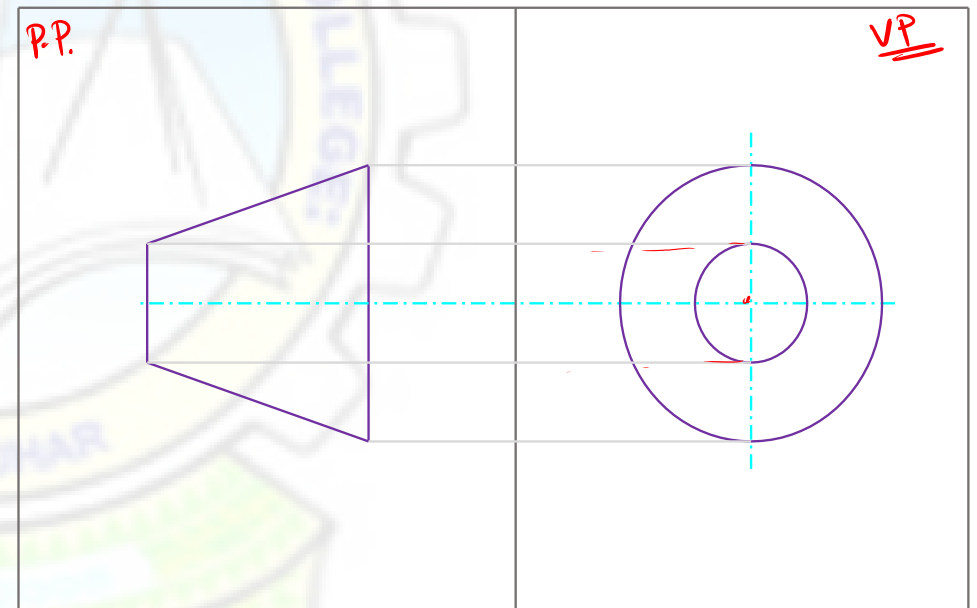
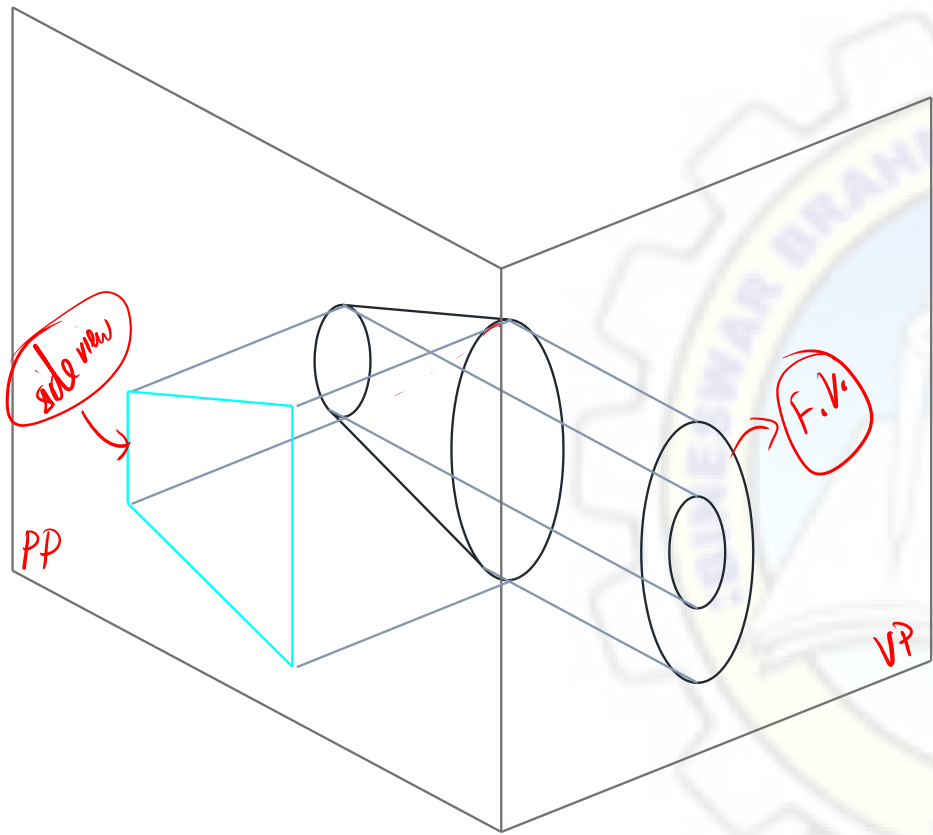
1st angle projection



Symbol for 1st angle projection

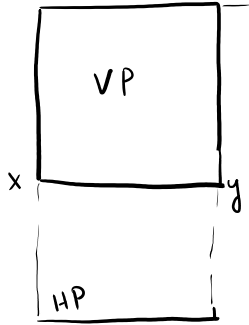


Symbol for 3rd angle projection

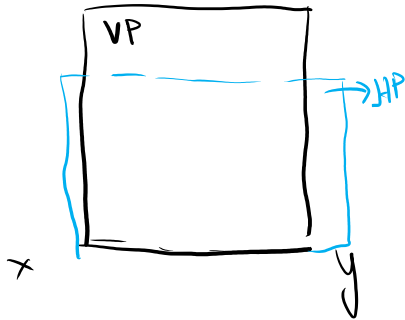


Layouts of 1st / 2nd / 3rd / 4th angle projection

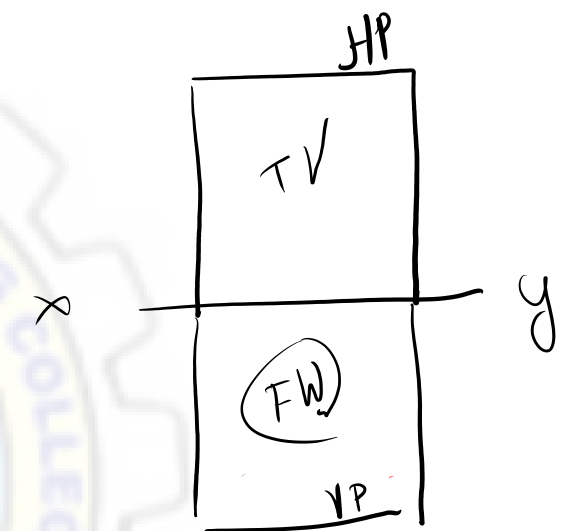
1st



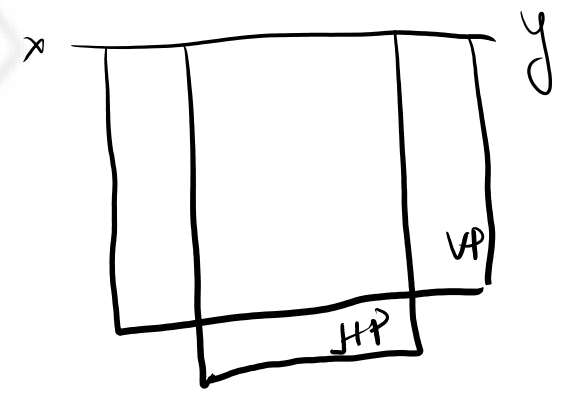
2nd



3rd



4th



Thank you

