



**SNS COLLEGE OF TECHNOLOGY, COIMBATORE-35**  
**DEPARTMENT OF MECHANICAL ENGINEERING**



Engineering Drawing –  
**UNIT I** Topic – PROJECTION OF POINTS-  
Faculty i/c: C.SENTHILKUMAR,ASP/MECH,

**Quadrant system:** The picture planes used for obtaining the orthographic projections are called the Principal planes of projection or reference planes or co- ordinate planes of projection.

**VP:** The plane in front of observer is the vertical plane. (VP) or it is also called a Frontal plane.

**Front View (FV):** The projection on the VP is called the Front View (FV) or Vertical Projection or front elevation or Elevation.

**HP:** The plane which is Horizontal and perpendicular to VP is Horizontal Plane.

**Top View (TV):** The projection on the HP is called the Top View (TV) or Horizontal Projection or Plan.

**Note:** The planes HP and VP are called Principal Planes. Reference Line: The line of intersection of HP and VP is called reference line, which is denoted by X-Y.



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<u>Summary</u>				
Quadrant	I	II	III	IV
Position of to point	Above Hp and in front of vp	Above Hp and behind vp	Below Hp and Behind vp	Below Hp and in front of vp
Front View	Above xy	above xy	Below xy	Below xy
Top view	Below xy	Above xy	above xy	Below xy.



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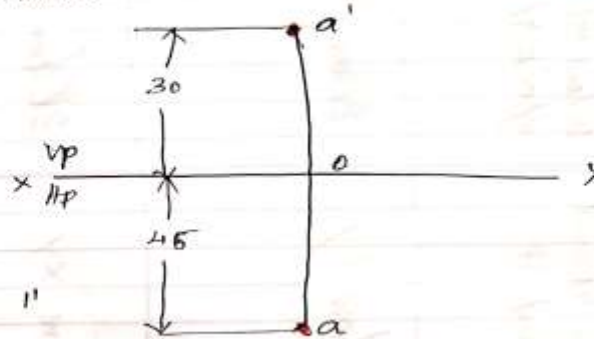
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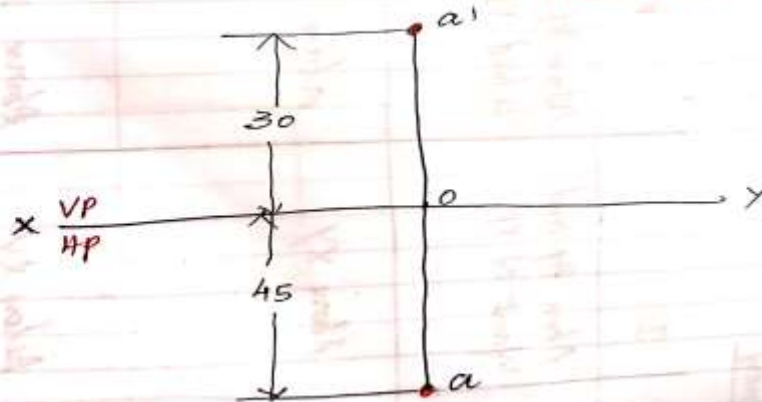
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- ① Point A is 30mm above Hp and 45mm in front of VP. Draw its Front view and Top view I QUADRANT



- ② A point M is 35mm above Hp and 40mm in front of VP. Draw its projections. I QUADRANT





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Points.

When the point lies in the first Quadrant  $\rightarrow$  above Hp, front of Vp.

Second Quadrant  $\rightarrow$  above Hp and behind Vp.

Third Quadrant  $\rightarrow$  Below Hp and behind Vp.

Fourth Quadrant  $\rightarrow$  Infront of Vp and below Hp.

(i) A, 25mm above Hp and 35mm infront of Vp.

(ii) B, 25mm above Hp and 40mm behind Vp.

(iii) C, 30mm above Hp and 45mm behind Vp.

(iv) D, 30mm below Hp and 40mm infront of Vp.

(v) E, 25mm above Hp and in Vp.

(vi) F, 35mm below Hp and in Vp.

(vii) G, 25mm infront of Vp and in Hp.

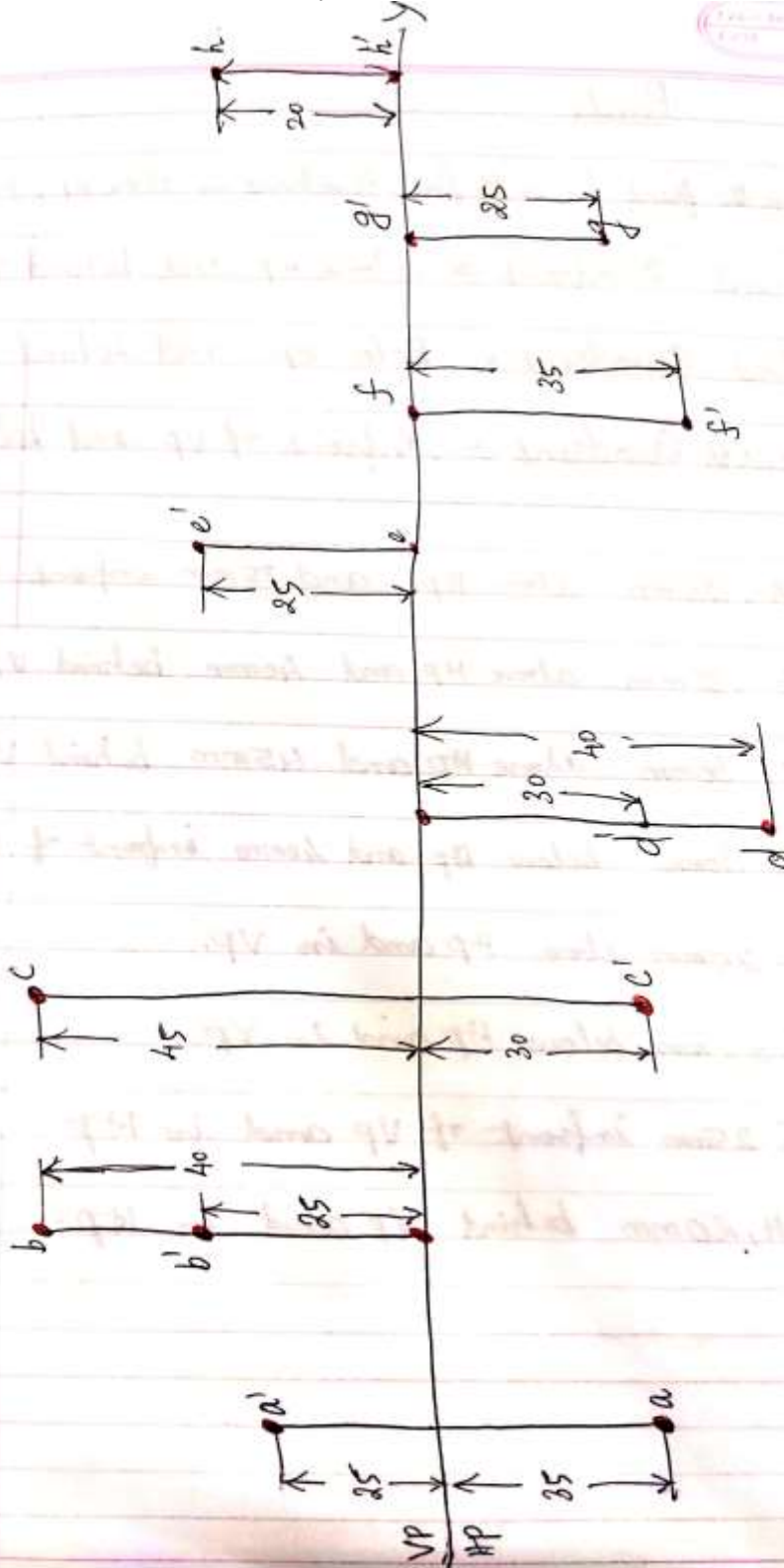
(viii) H, 20mm behind Vp and in Hp.



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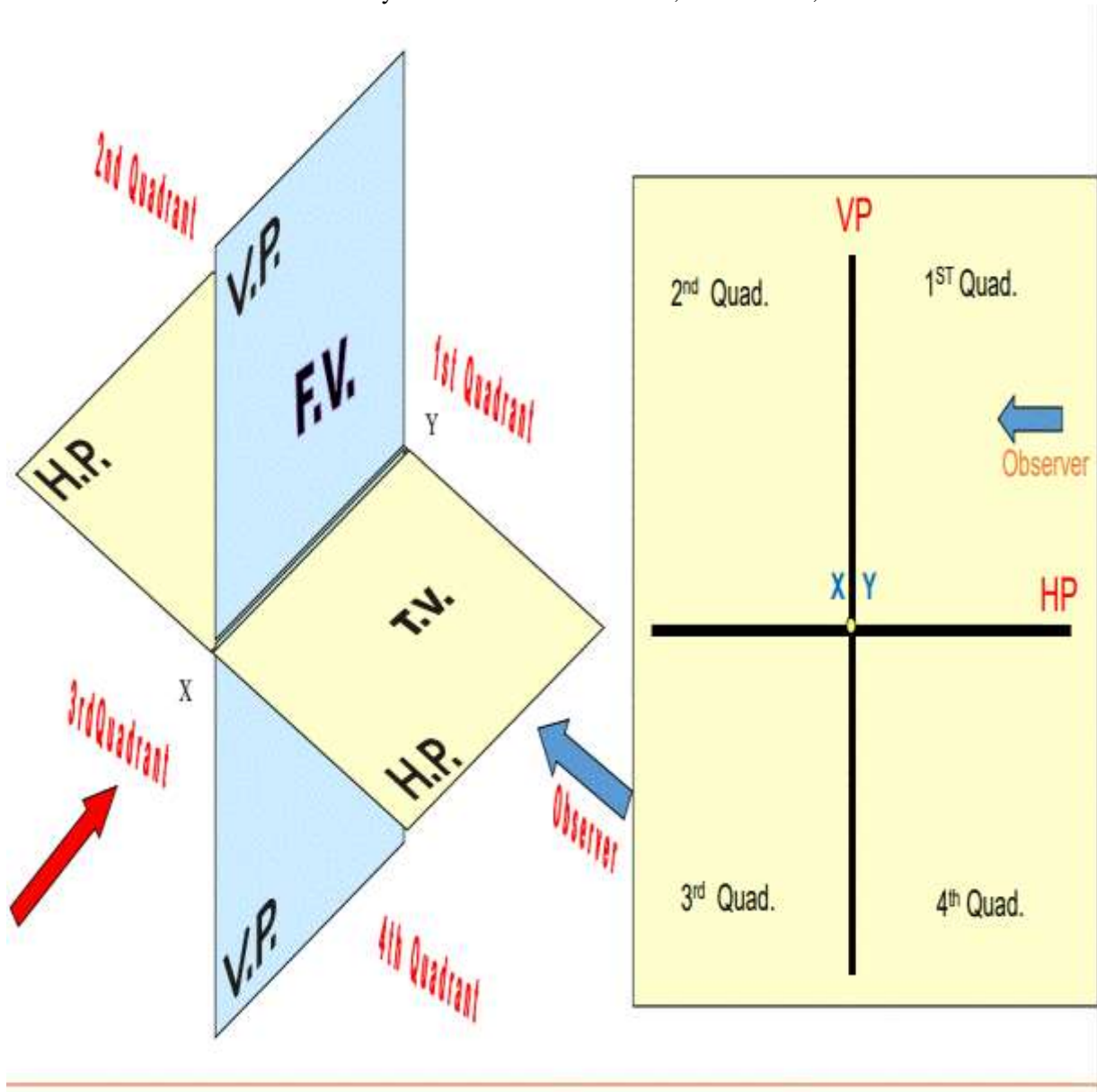




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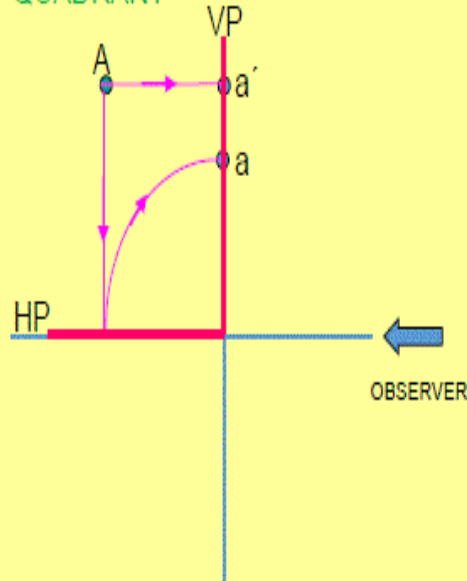
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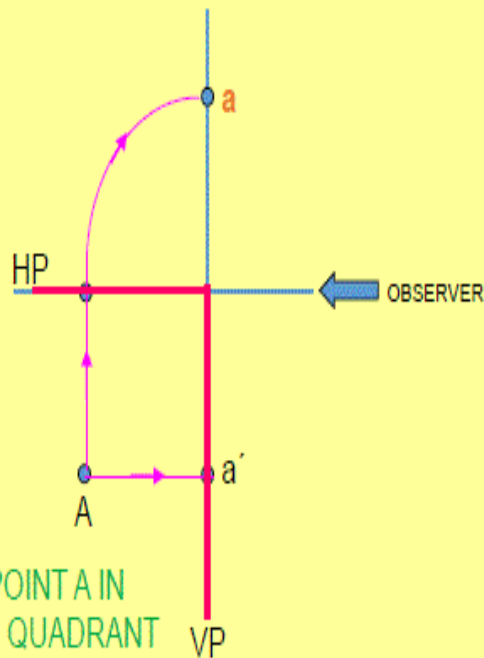
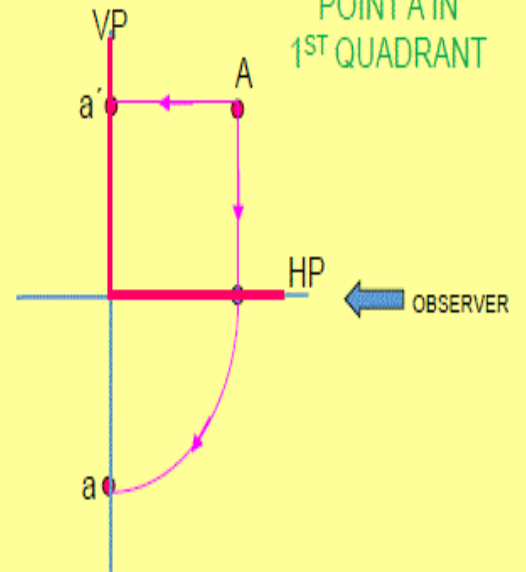
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Point A is placed in different quadrants and its FV & TV are brought in same plane for Observer to see clearly. FV is visible as it is a view on VP. But as TV is a view on HP, it is rotated downward  $90^\circ$ , in clockwise direction. The front part of HP comes below XY line and the part behind VP comes above.

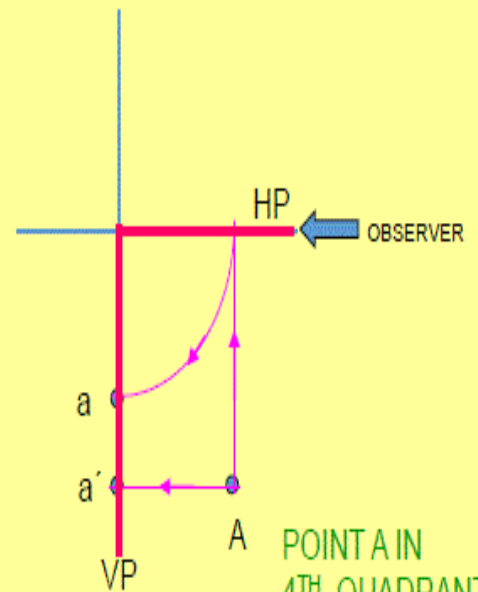
POINT A IN  
2<sup>ND</sup> QUADRANT



POINT A IN  
1<sup>ST</sup> QUADRANT



POINT A IN  
3<sup>RD</sup> QUADRANT



POINT A IN  
4<sup>TH</sup> QUADRANT



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**PROJECTIONS OF A POINT IN FIRST QUADRANT**

