SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES.
(Autonomous)
DEPARTMENT OF MECHANICAL ENGINEERING

23ESC113– Engineering Graphics

Unit-II

Projections of points / Lines / Planes

1. **Mark the projections of the following points on a common reference line with 25mm apart:**

   a) P, 35mm behind the V.P. and 20mm below the H.P.

   b) Q, 40mm in front of the V.P. and 30mm above the H.P.

   c) R, 50mm behind the V.P. and 15mm above the H.P.

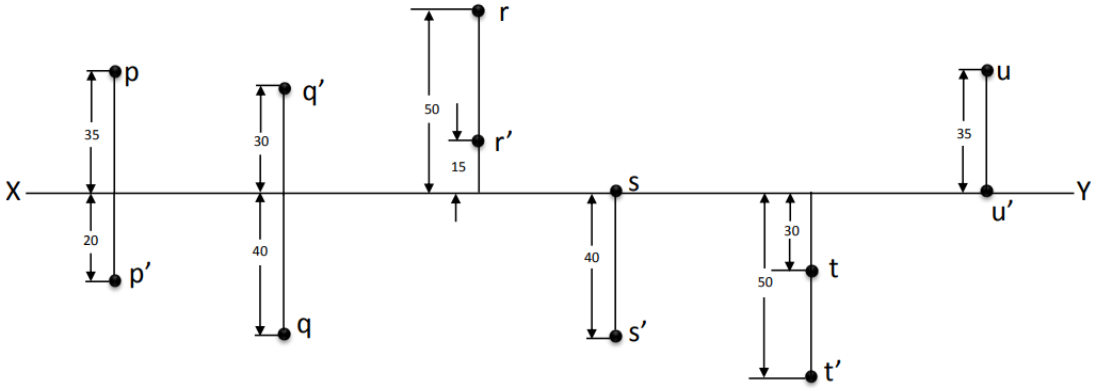
   d) S, 40mm below the H.P. and in the V.P.

   e) T, 30mm in front of V.P. and 50mm below the H.P.

   f) U, 35mm behind the V.P. and in the H.P.

   G) V is on the VP and HP

   Also mention name the quadrants in which they lie.



2. **Draw the projections of the following points on a common reference line by keeping the projections 25mm apart.**

   Draw the projections of the following points on a common reference line by keeping the projections 25mm apart.

   i) Point A, 30 mm above HP and 20 mm in front of VP

   ii) Point B, 30 mm above HP and in VP

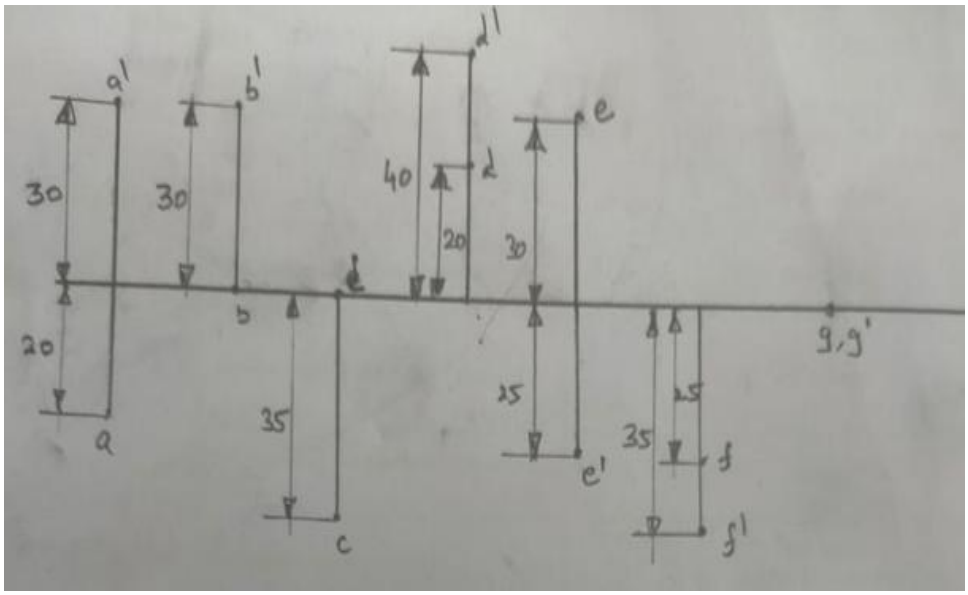
   iii) Point C, 35 mm in front of VP and in HP

   iv) Point D, 40 mm above HP and 20 mm behind VP

   v) Point E, 25 mm below HP and 30 mm behind VP

   vi) Point F, 35 mm below HP and 25 mm in front of VP

   vii) Point G is lying on both HP and VP.



3. **Draw the projections of the following points on a common reference line by keeping the projections 25mm apart.**

   i) Point A, 35 mm above HP and 25 mm in front of VP

   ii) Point B, 40 mm below HP and 15 mm behind VP

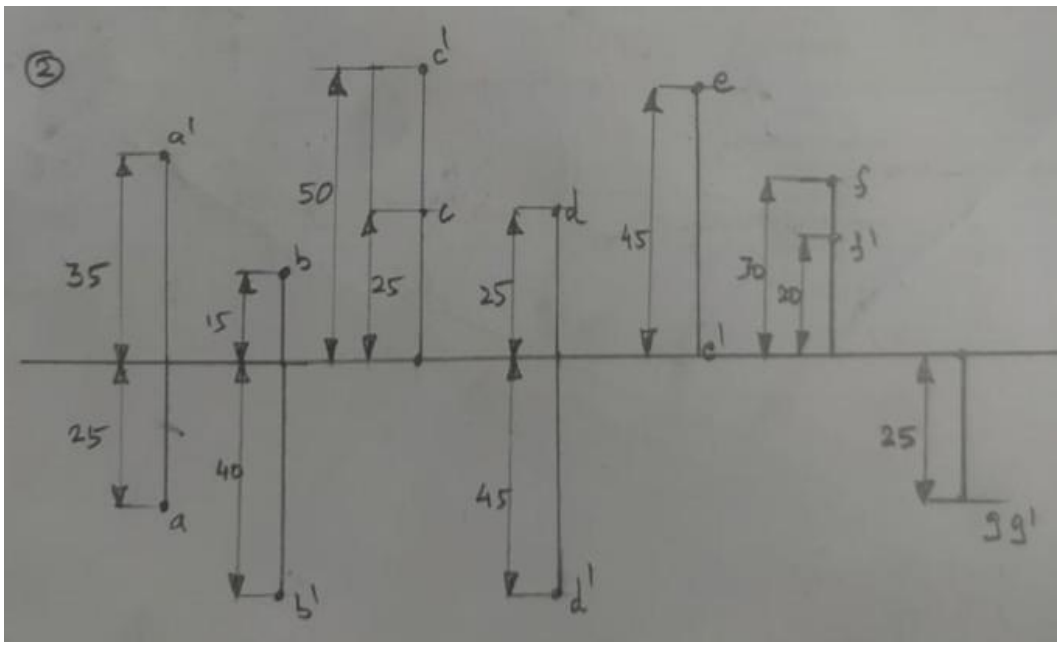
   iii) Point C, 50 mm above HP and 25 mm behind VP

   iv) Point D, 45 mm below HP and 25 mm behind VP

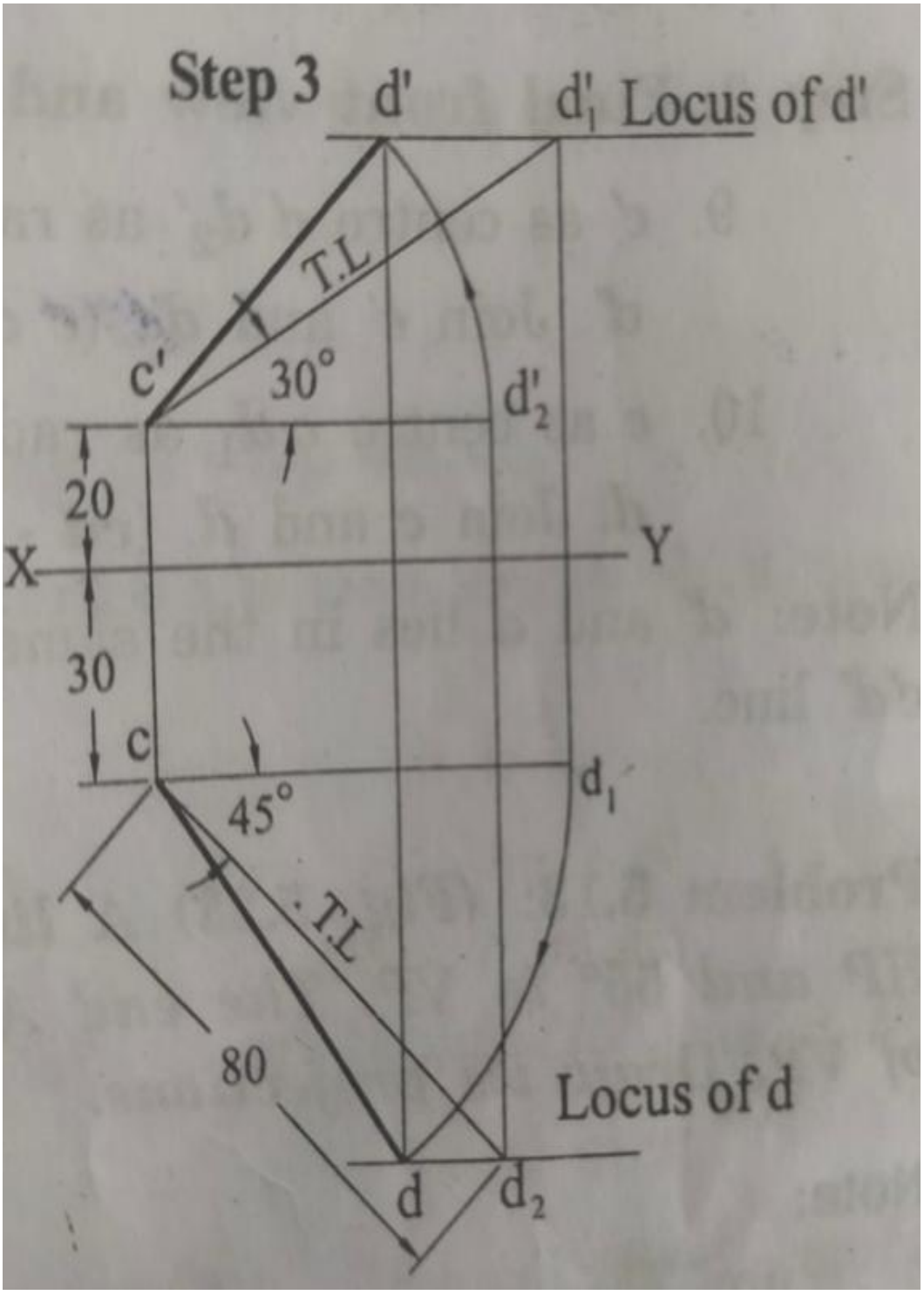
   v) Point E, 45 mm behind VP and on the HP

   vi) Point F, 30 mm above HP and 20 mm behind VP

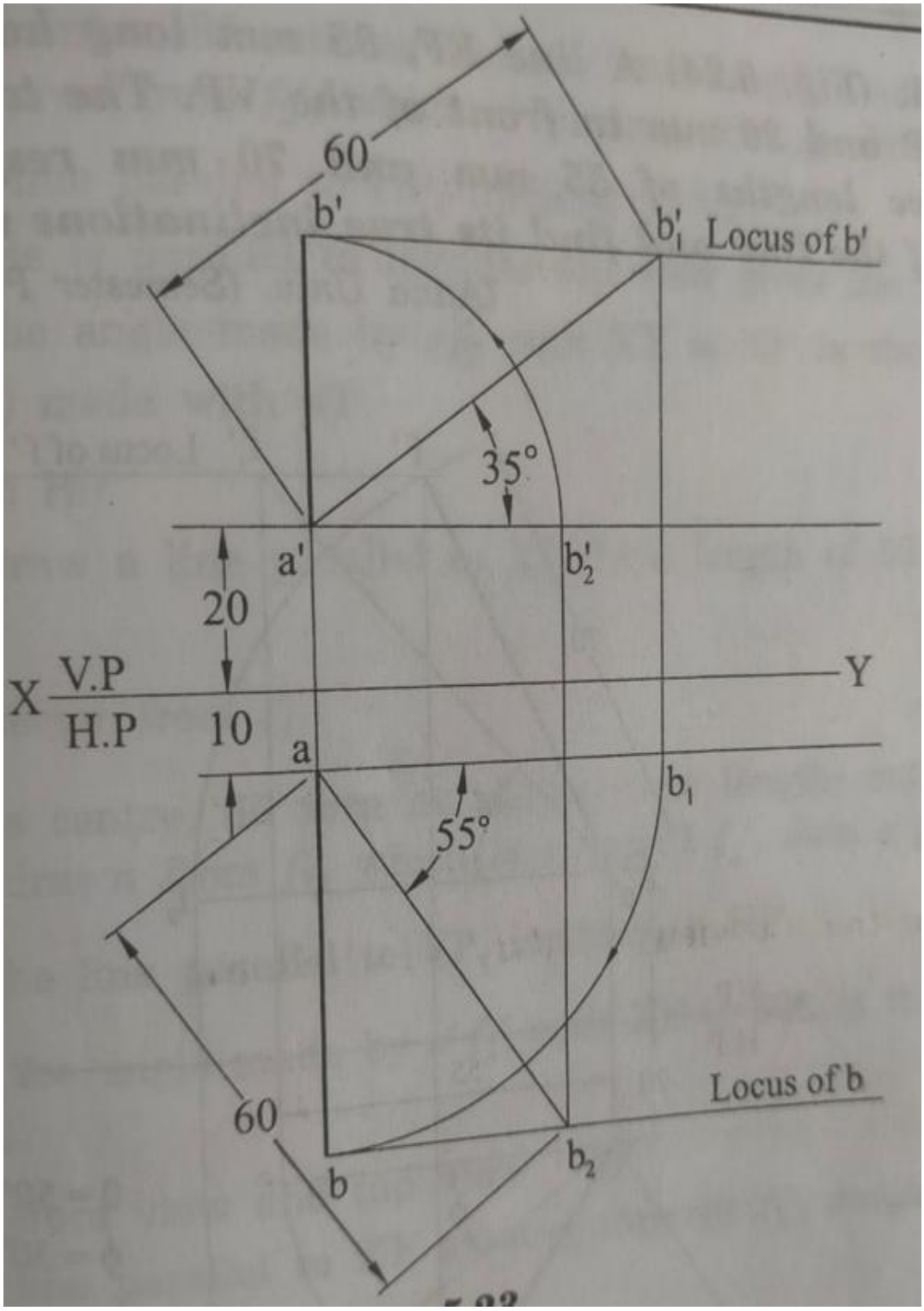
   vii) Point G 25 mm below HP and 25 mm in front of VP.



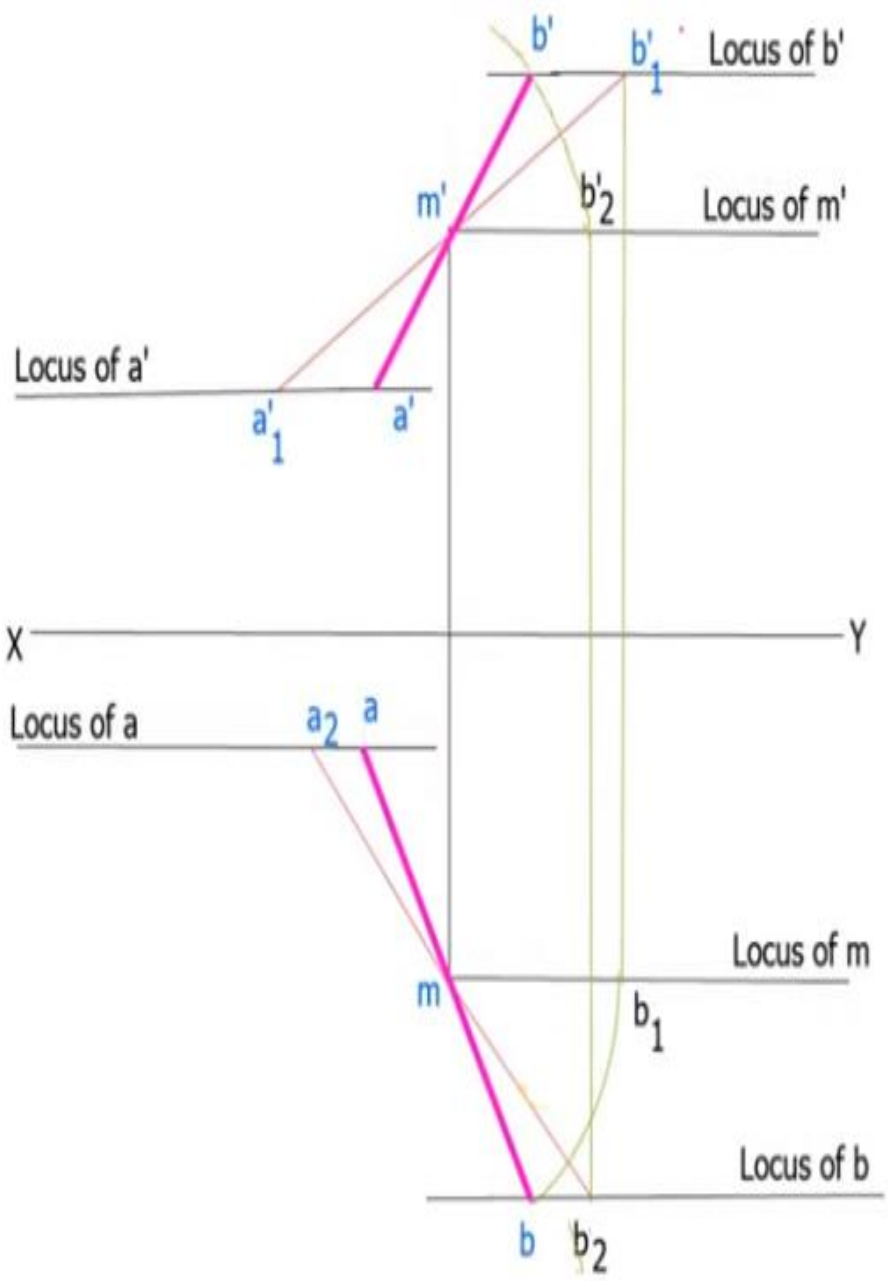
4. **A line CD measuring 80 mm is inclined at an angle of 30° to HP and 45° to VP. The point C is 20 mm above HP and 30 mm in front of VP. Draw the projection of straight-line?**



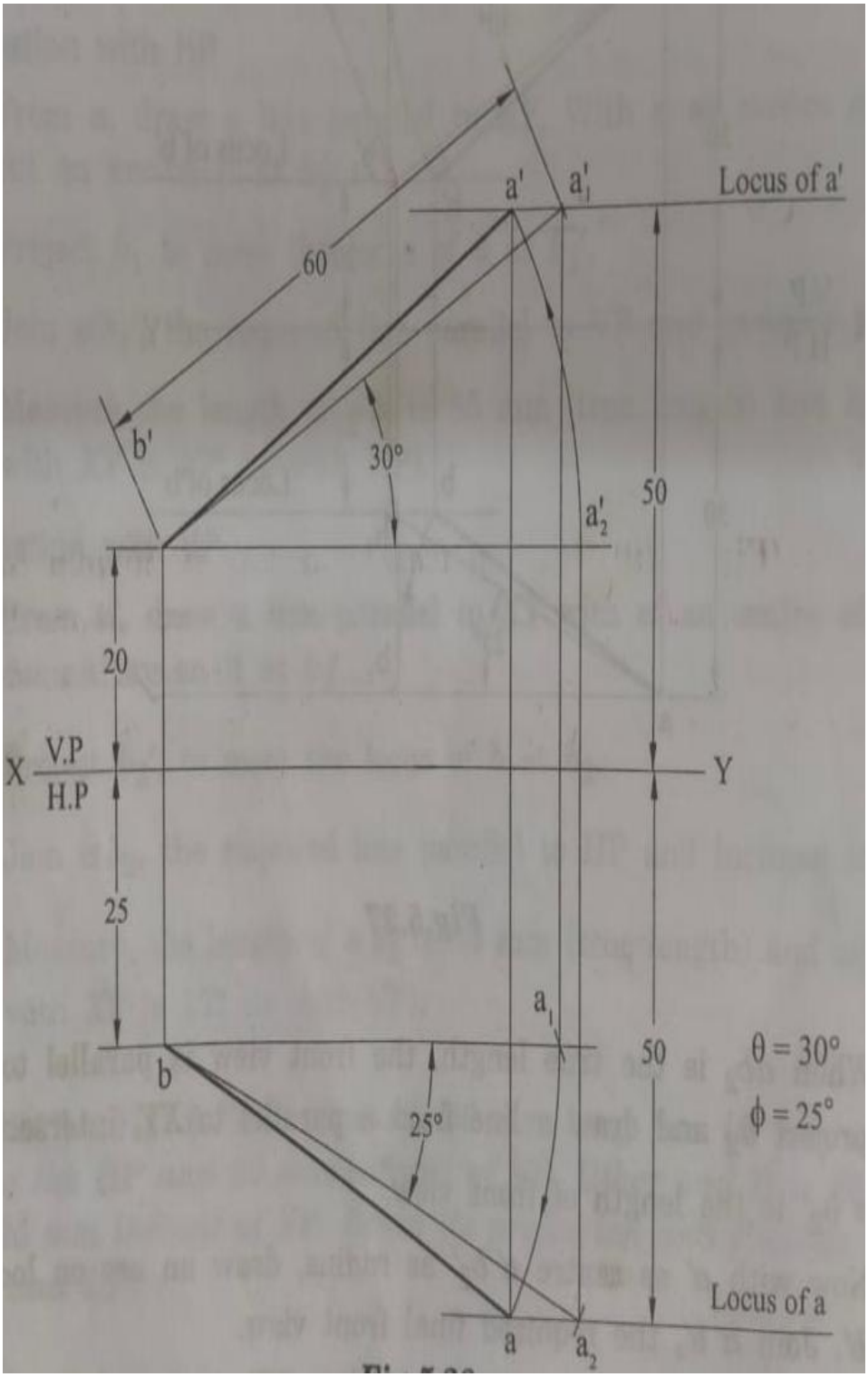
5. **A line AB 60 mm long and inclined at 35° to HP and 55° to VP. The end A is 20 mm above HP and 10 mm in front of VP. Draw its projections.**



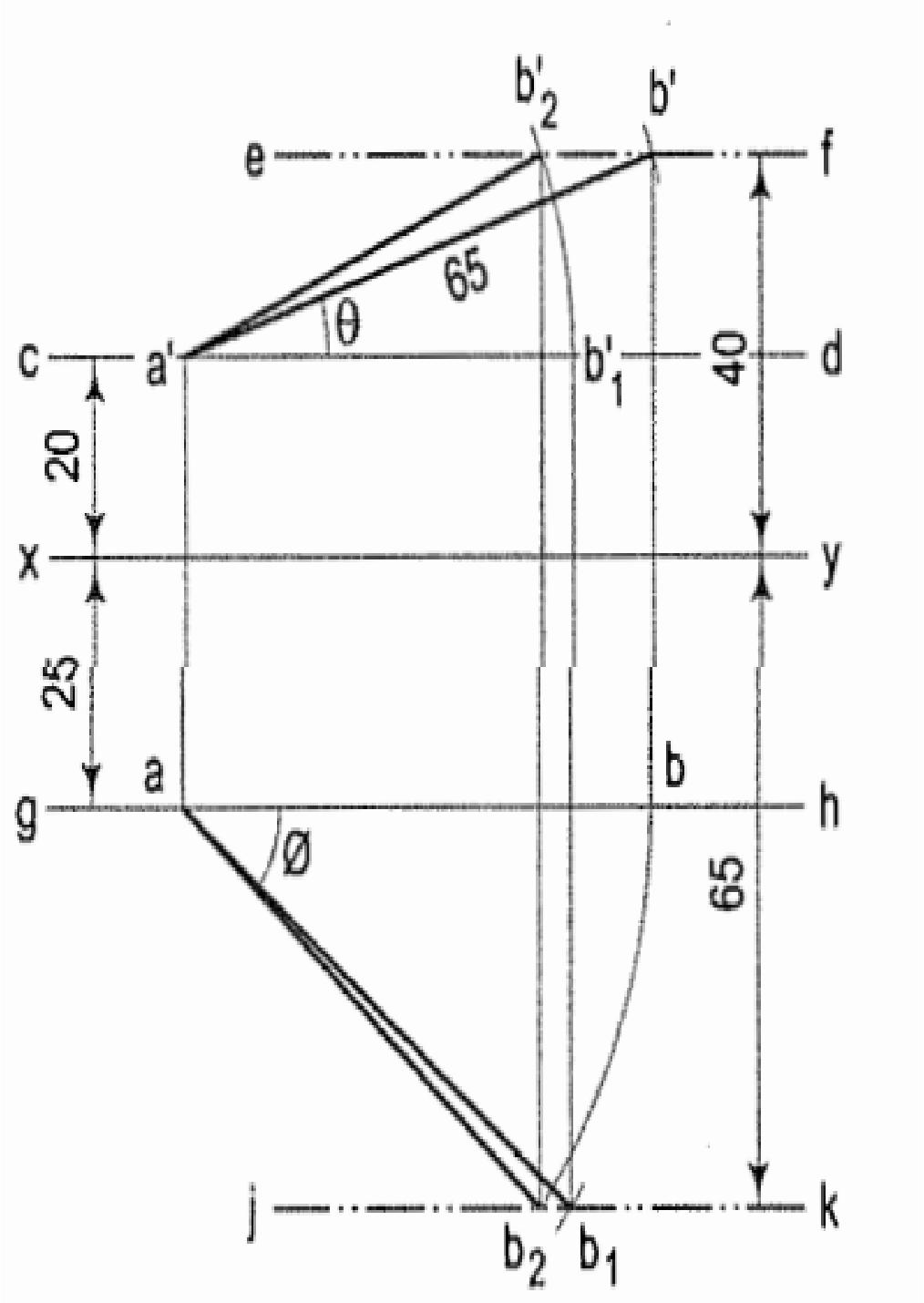
6. **The mid-point of a straight-line AB is 60mm above HP and 50 mm in front of VP. The line measures 80mm long and inclined at an angle of 30° to HP and 45° to VP. Draw its projections and state their ends lies in which quadrants?**



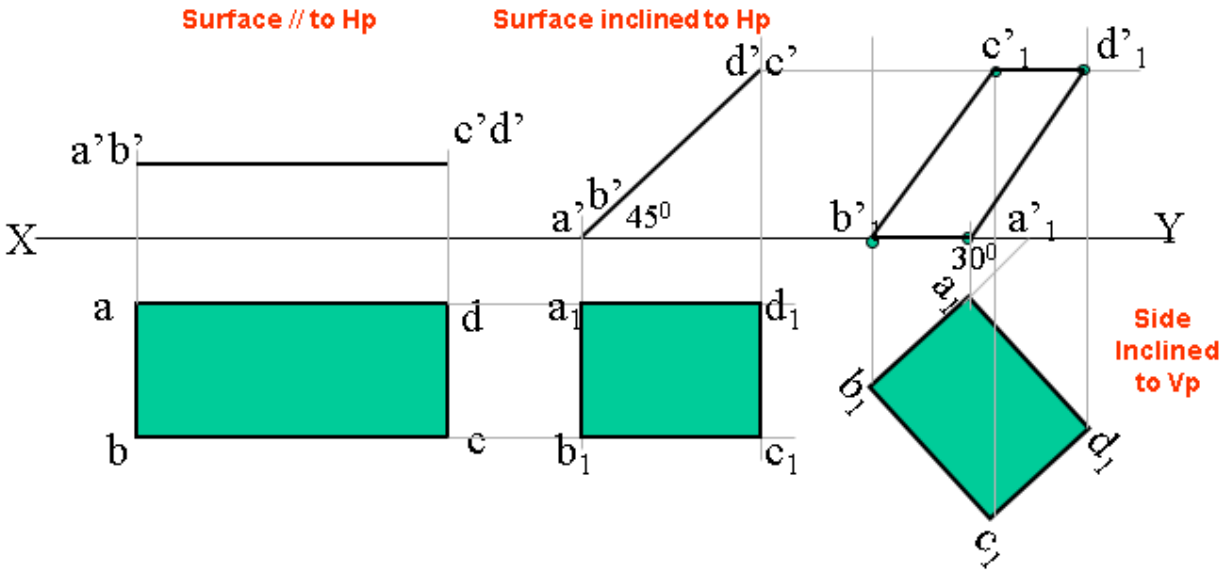
7. **A line AB 60 mm long has its end B 20 mm above HP and 25 mm infront of VP. The end A is 50 mm above HP and 50 mm infront of VP. Draw its projections and find its inclinations with VP and HP.**



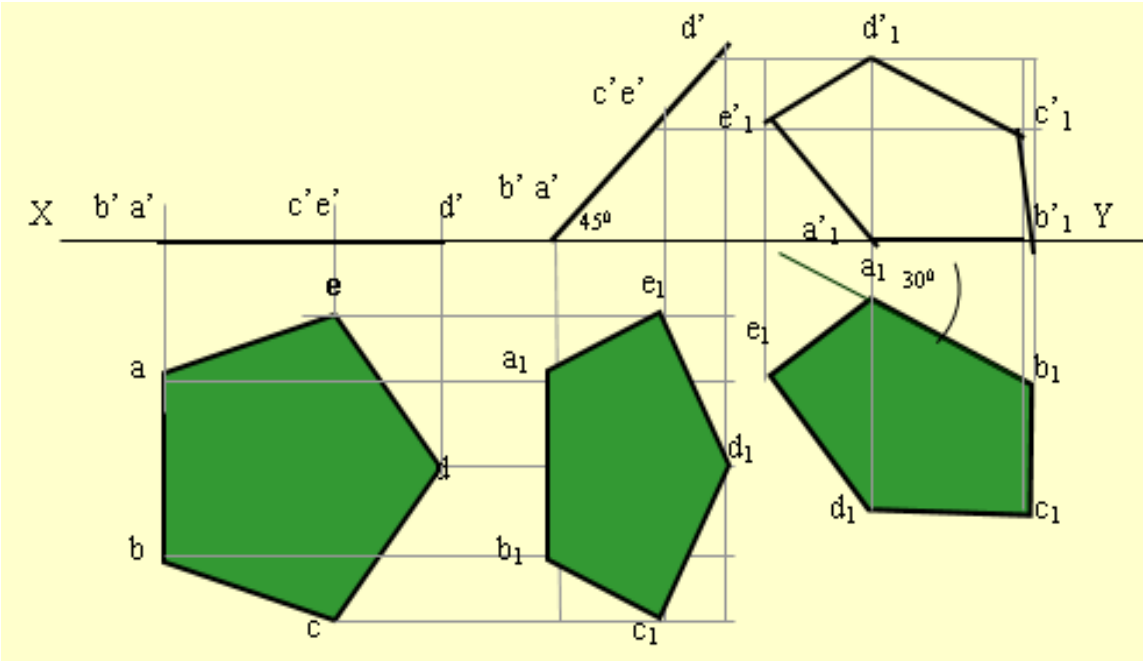
8. **A line AB 65 mm long has its end A 20 mm above HP and 25 mm infront of VP. The end B is 40 mm above HP and 65 mm infront of VP. Draw its projections and find its inclinations with VP and HP.**



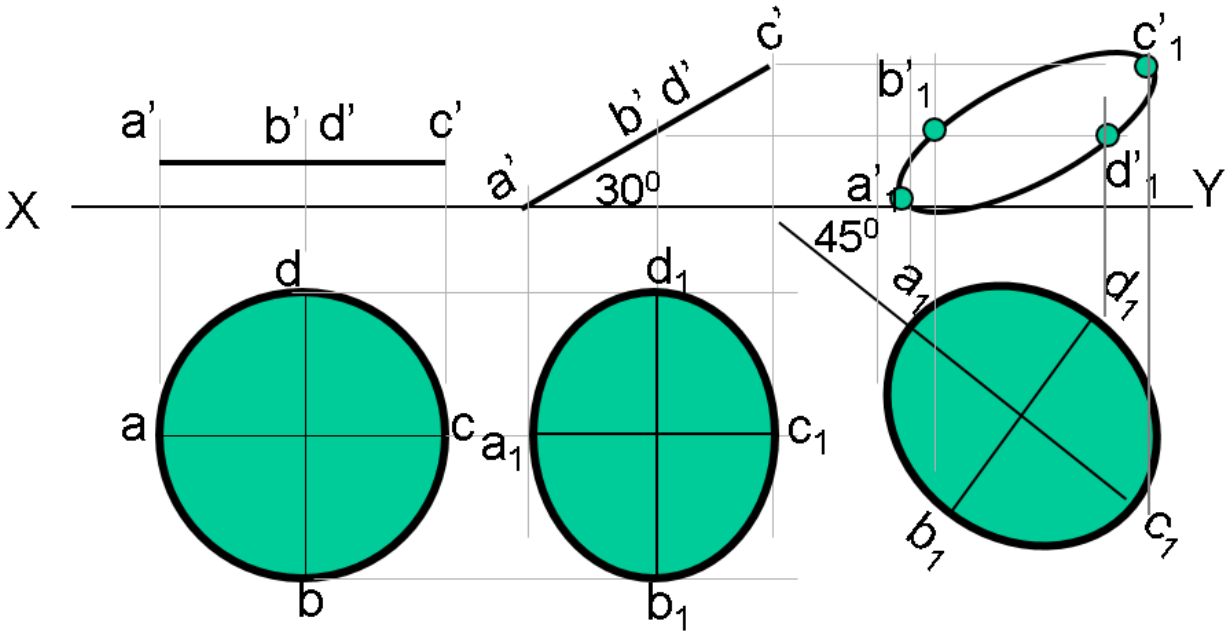
9. **A rectangular plane of 30mm and 50mm sides is resting on HP on one of its smaller side which is 30^0 inclined to VP, while the surface of the plane makes 45^0 inclinations with HP. Draw its projections.**



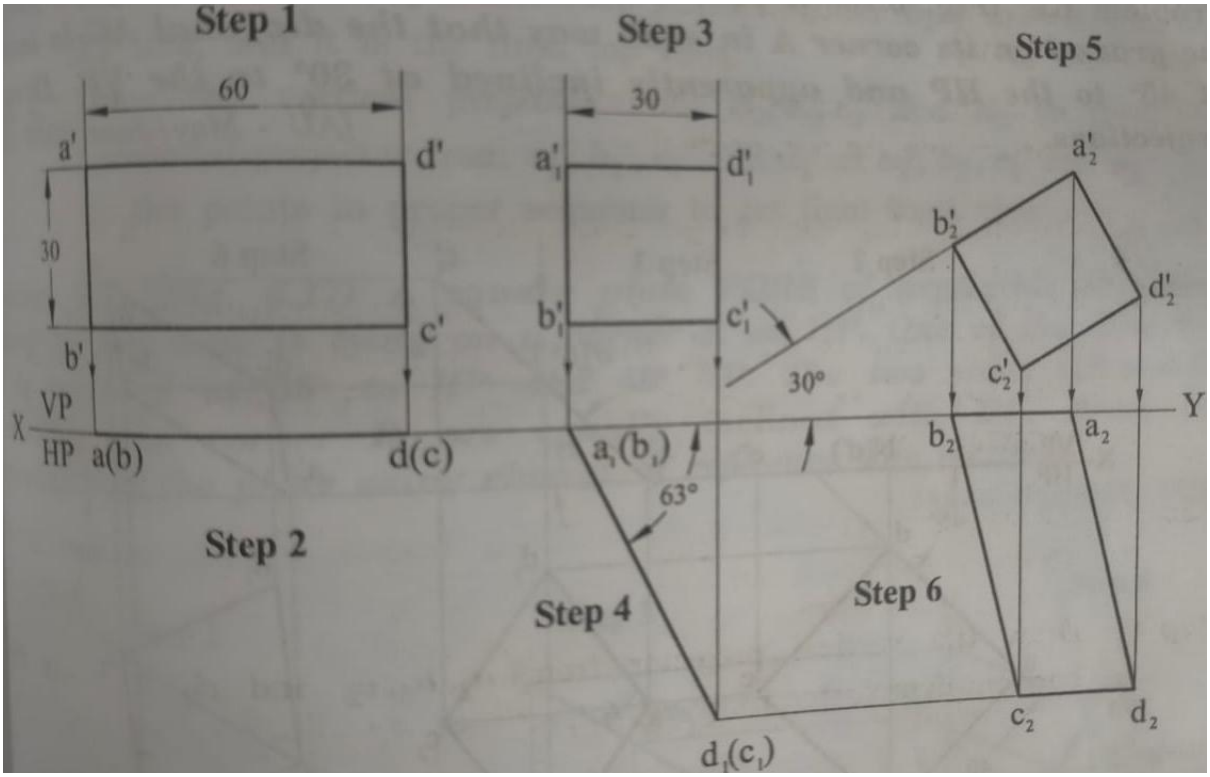
10. **A regular pentagon of 30mm sides is resting on HP on one of it's sides with it's surface 45^0 inclined to HP. Draw it's projections when the side in HP makes 30^0 inclined with VP.**



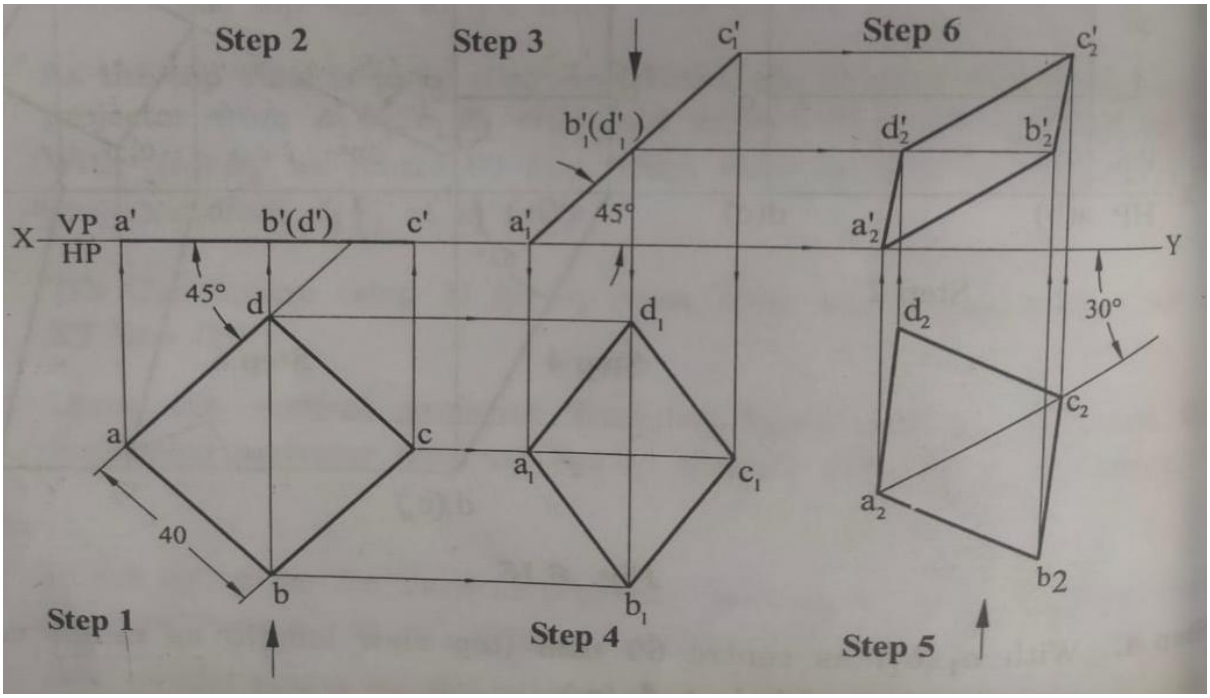
11. A circle of 50mm diameter is resting on HP on end A of it's diameter AC which is 30^0 inclined to HP while it's TV is 45^0 inclined to VP. Draw it's projections.



12. A thin rectangular plate of sides 60 mm x 30 mm has its shorter side in the VP and inclined at 30° to the HP. Project its top view if its front view is a square of 30 mm long sides.



13. A square lamina ABCD of side 40 mm rests on the ground on its corner 'A' in such a way that the diagonal PR is inclined at 45° to the HP and apparently inclined at 30° to the VP. Draw its projections.



14. A hexagonal lamina of 24 mm side has its surface inclined at 30° to HP. Its one side is parallel to HP and inclined at 45° to VP. Draw its projections.