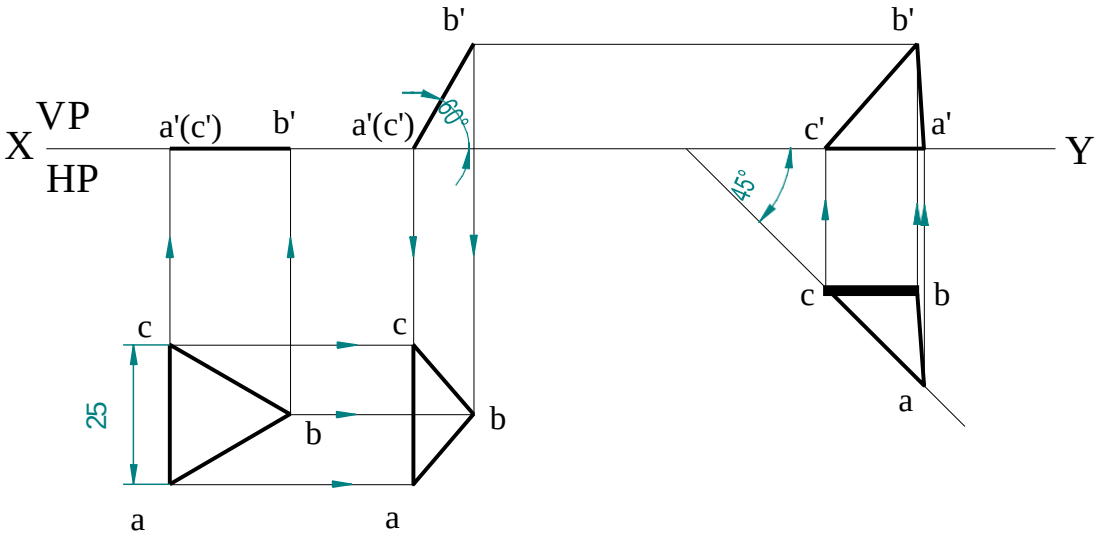
MODULE 1

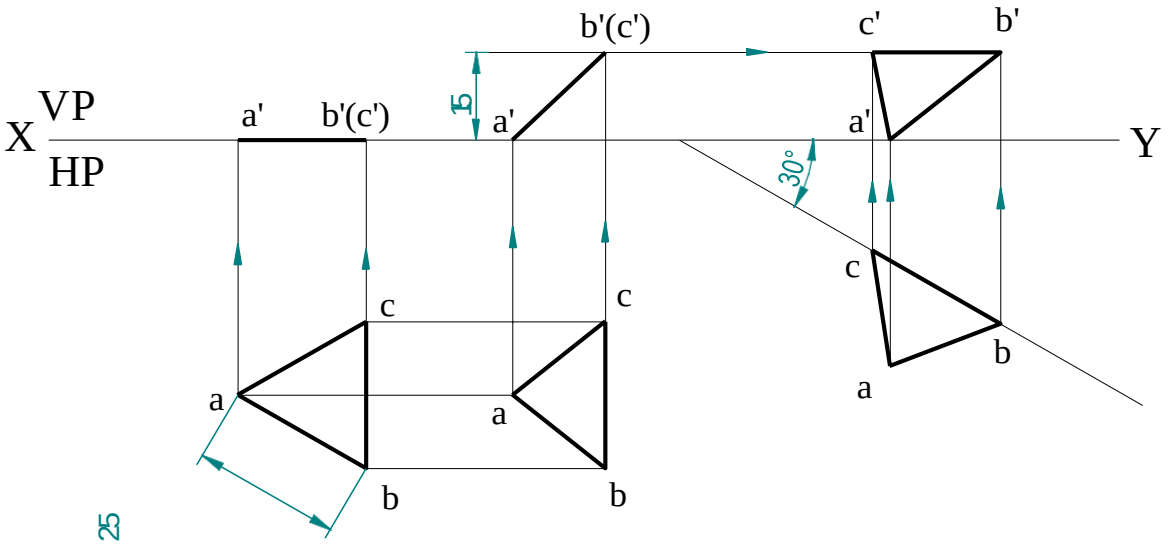
ORTHOGRAPHIC PROJECTIONS OF PLANES

[20 MARKS]

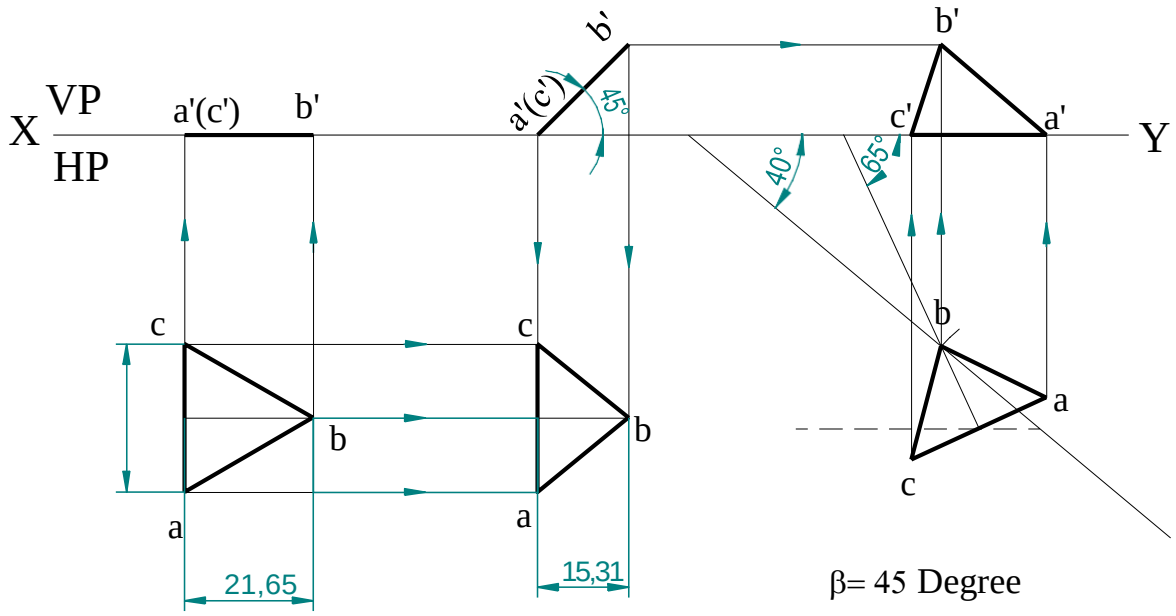
1) An equilateral triangular lamina of 25mm side lies with one of its edges on HP such that the surface of the lamina is inclined to HP at 60^0. The edge on which it rests is inclined to VP at 45^0.draw projections.



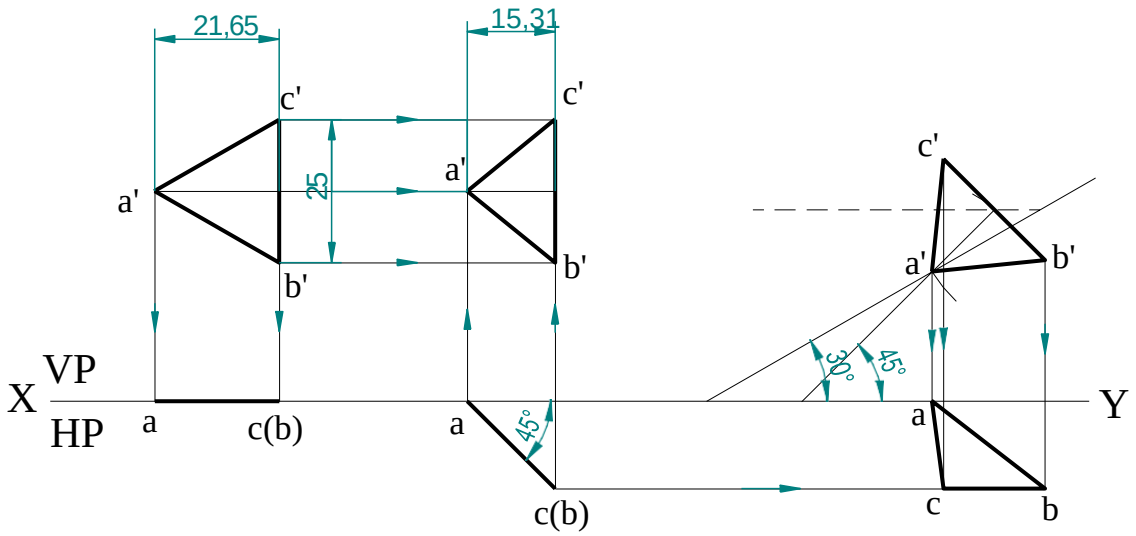
2) A triangular plane lamina of sides 25mm is resting on HP with one of its corner touching it, such that the side opposite to the corner on which it rests is 15mm above HP and makes an angle of 30^0 with VP. Draw the top and front views in this position. Also determine the inclination of the lamina to the reference plane.



3) An equilateral triangular lamina of 25mm side lies on one of its sides on HP. The lamina makes 45^0 with HP and one of its medians is inclined at 40^0 to VP. Draw its projections.

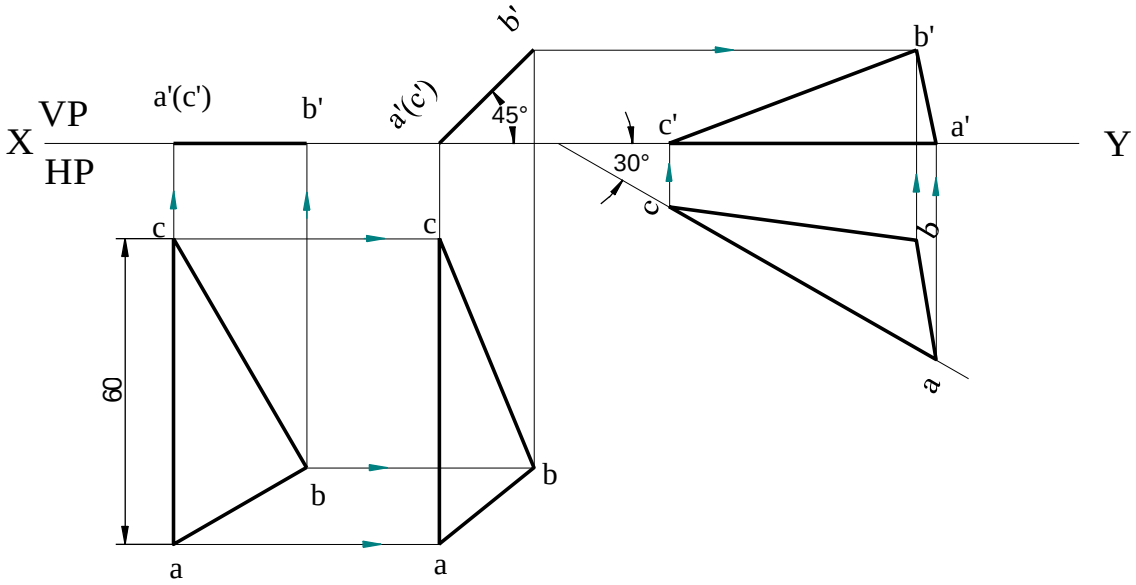


4) A triangular lamina of 25mm sides rests on one of its corner on VP such that the median is passing through the corner on which it rests is inclined at 30^0 to HP and 45^0 to VP. Draw its projections. [***Assignment***]

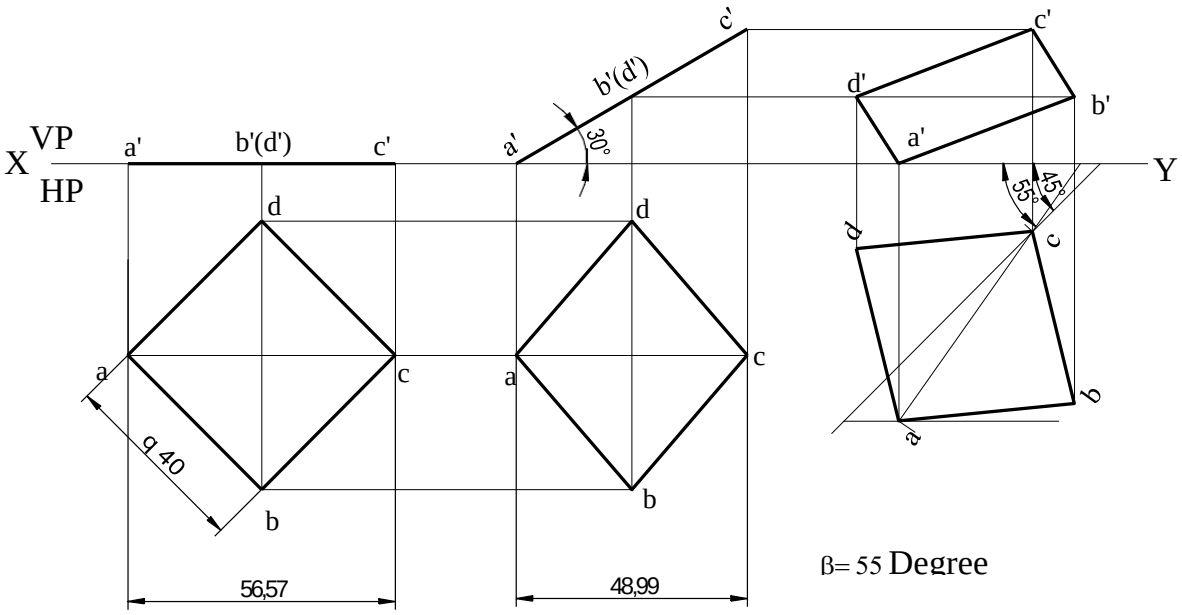


β= 45 Degree

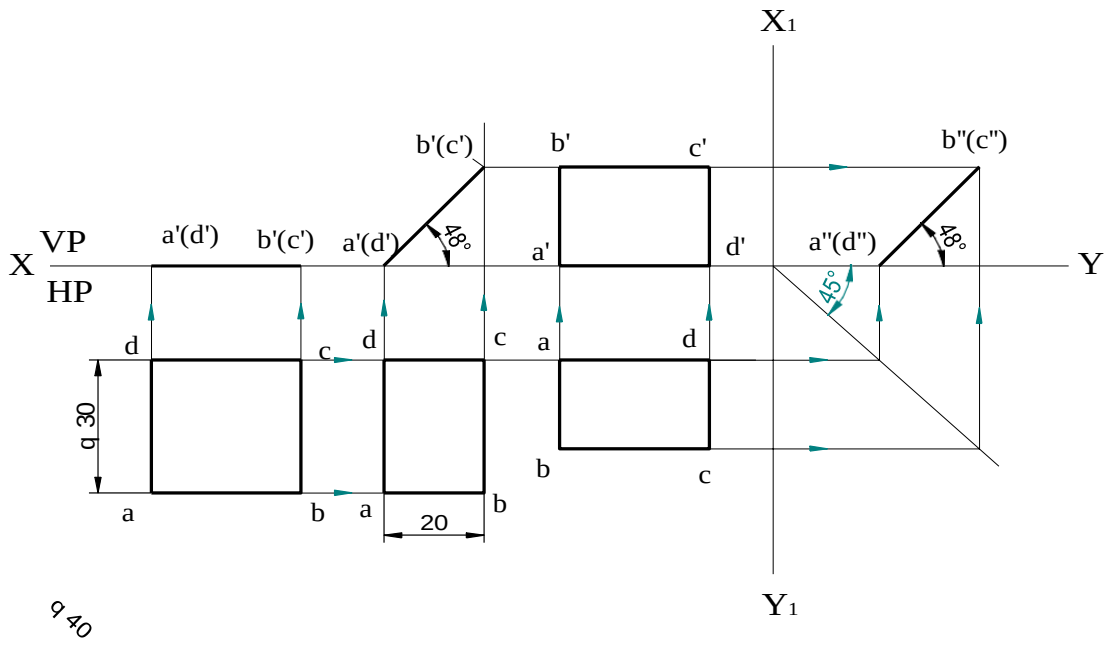
5) A 30^0-60^0 setsquare of 60mm longest side is so kept such that the longest side is in HP, making an angle of 30^0 with VP. The setsquare itself inclined at 45^0 to HP. Draw projections of the setsquare.



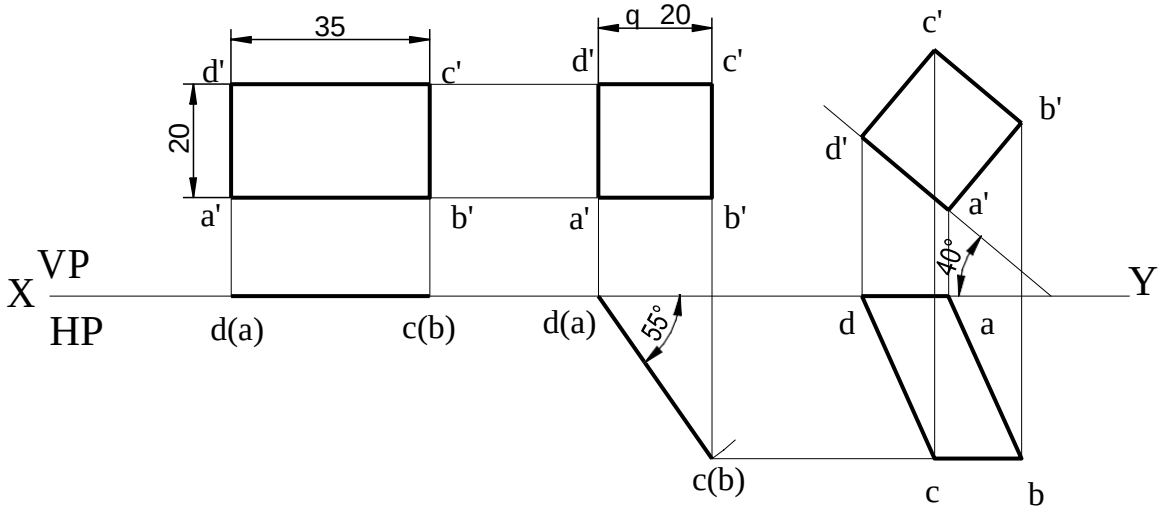
6) A square plate of 30mm sides rests on HP such that one of the diagonals is inclined at 30^0 to HP and 45^0 to VP. Draw its projections.



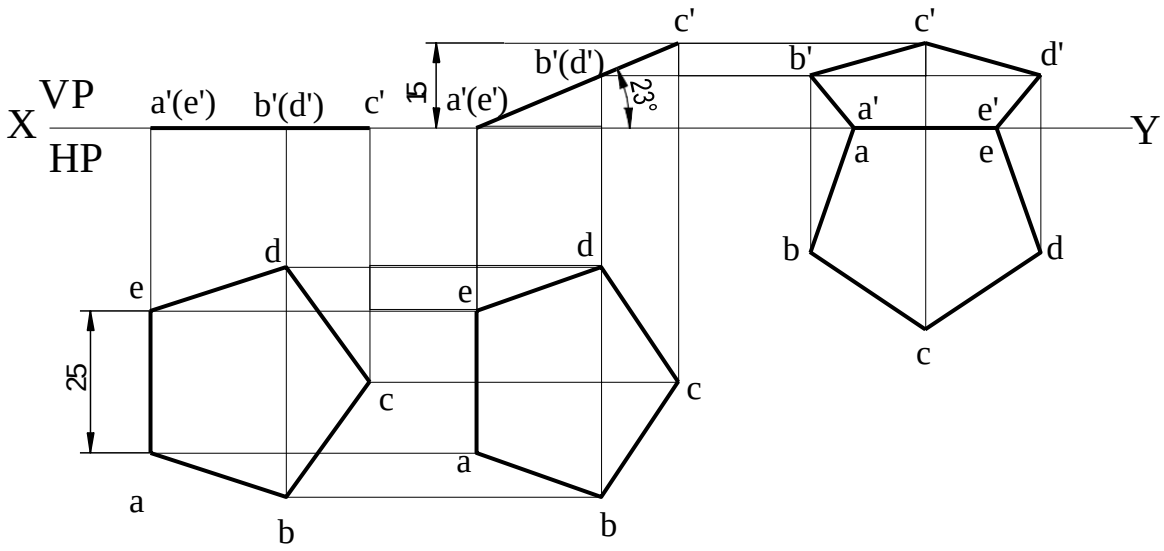
7) The top view of a square lamina of side 30mm is a rectangle of sides 30mmX20mm with the longer side of the rectangle being parallel to both HP and VP. Draw the top and front views of the square lamina. what is the inclination of the surface of the lamina with HP and VP?



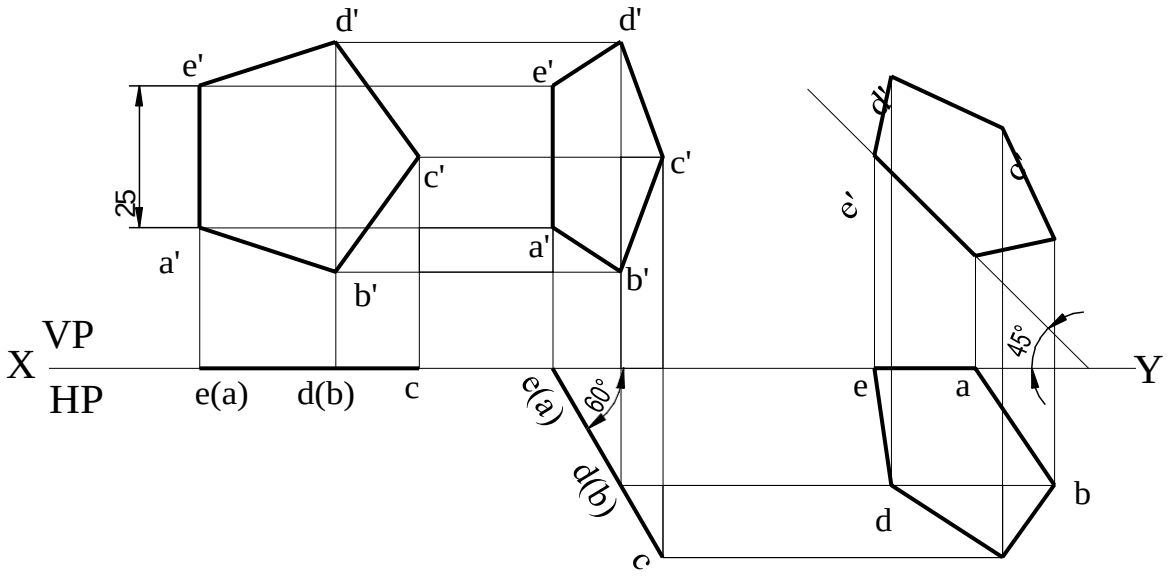
8) A rectangular plate of negligible thickness of size 35mmX20mm has one of its shorter edges in VP with that edge inclined at 40^0 to HP. Draw the top view if its front view is a square of side 20mm.



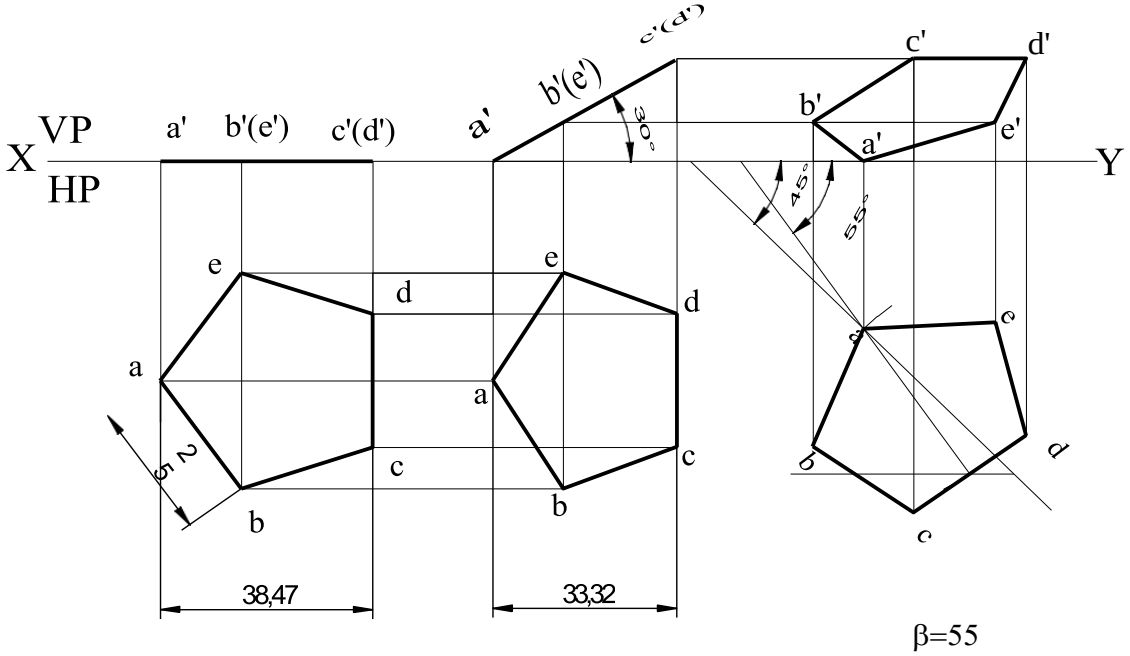
9) A pentagonal lamina of sides 25mmis having a side both on HP and VP. The corner opposite to the side on which it rests is 15mm above HP. Draw the top and front views of the lamina. [***Assignment***]



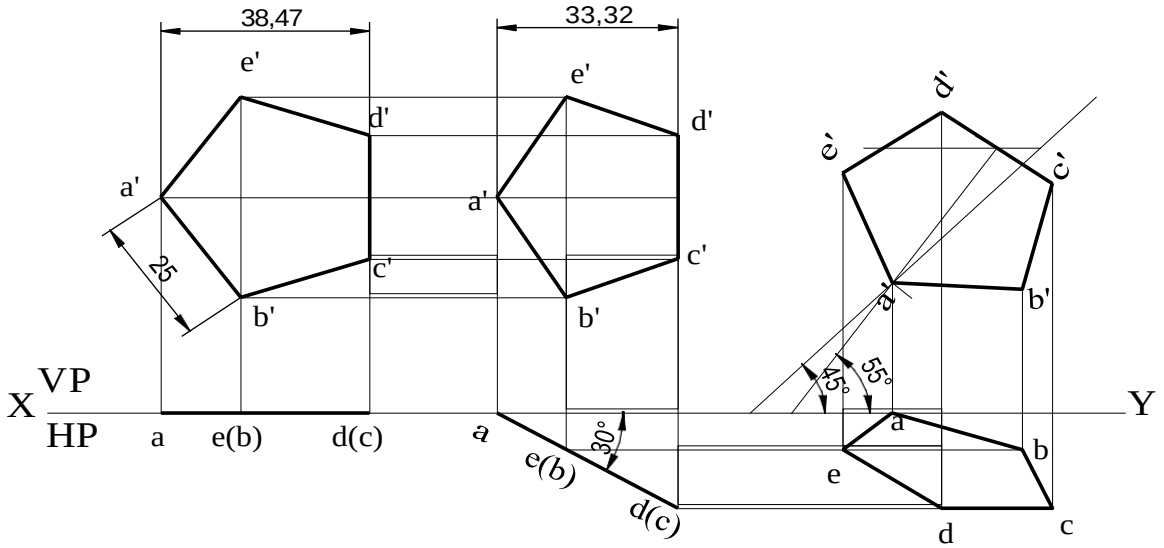
10) A pentagonal lamina of a edges 25mm is resting on VP with one of its sides such that the surface makes an angle of 60^0 with VP. The edge on which it rests is inclined at 45^0 to HP. Draw its projections.



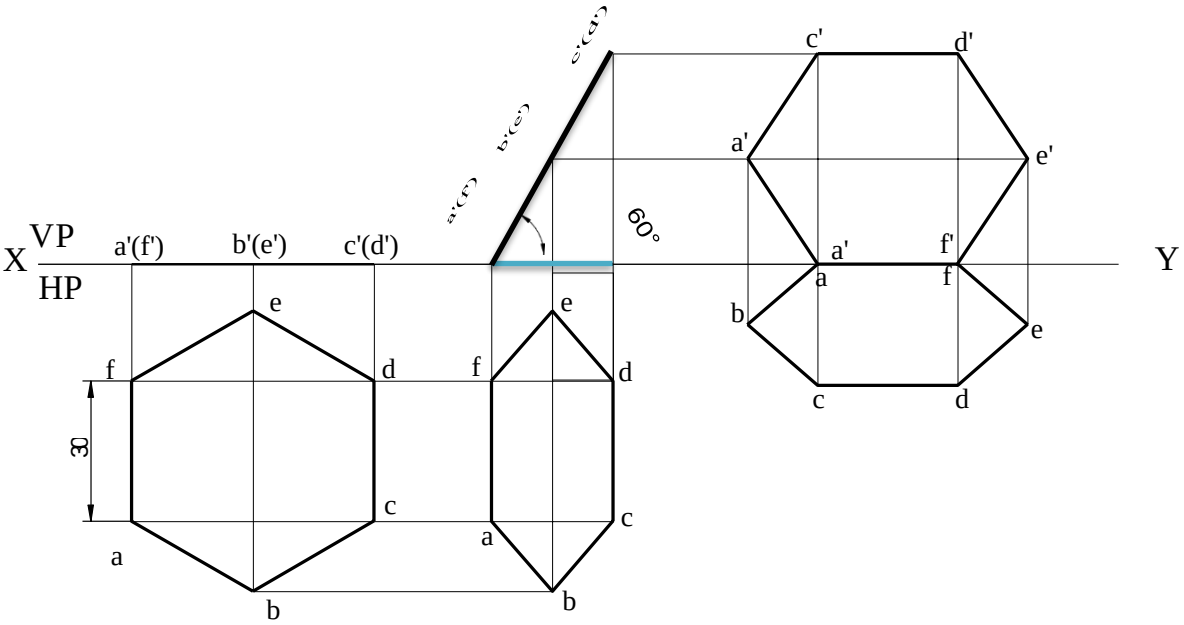
11) A pentagonal lamina having edges 25mm is placed on one of its corners on HP such that the perpendicular bisector of the edge passing through the corner on which the lamina rests is inclined at 30^0 to HP and 45^0 VP. Draw the top and front views of the lamina.



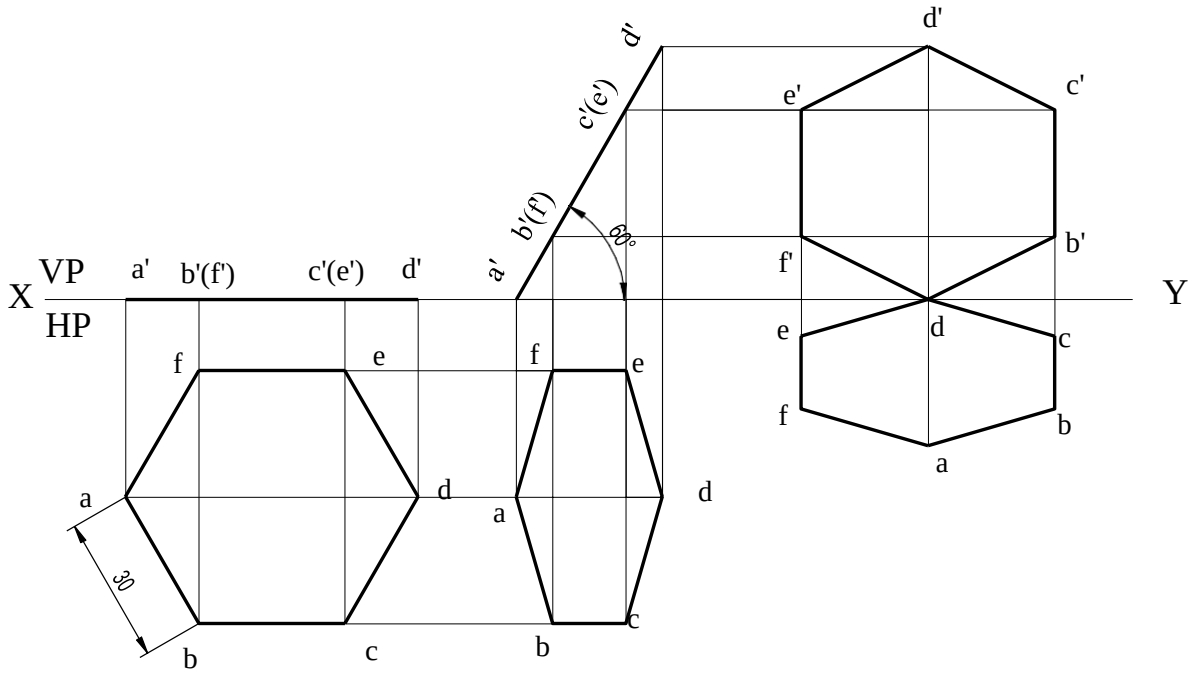
12) A pentagonal lamina having edges 25 mm is placed on one of its corners on VP such that the surface makes an angle 30^0 with VP and perpendicular bisector of the edge passing through the corner on which the lamina rests is inclined at 45^0 to HP. Draw the top and front views of the lamina.



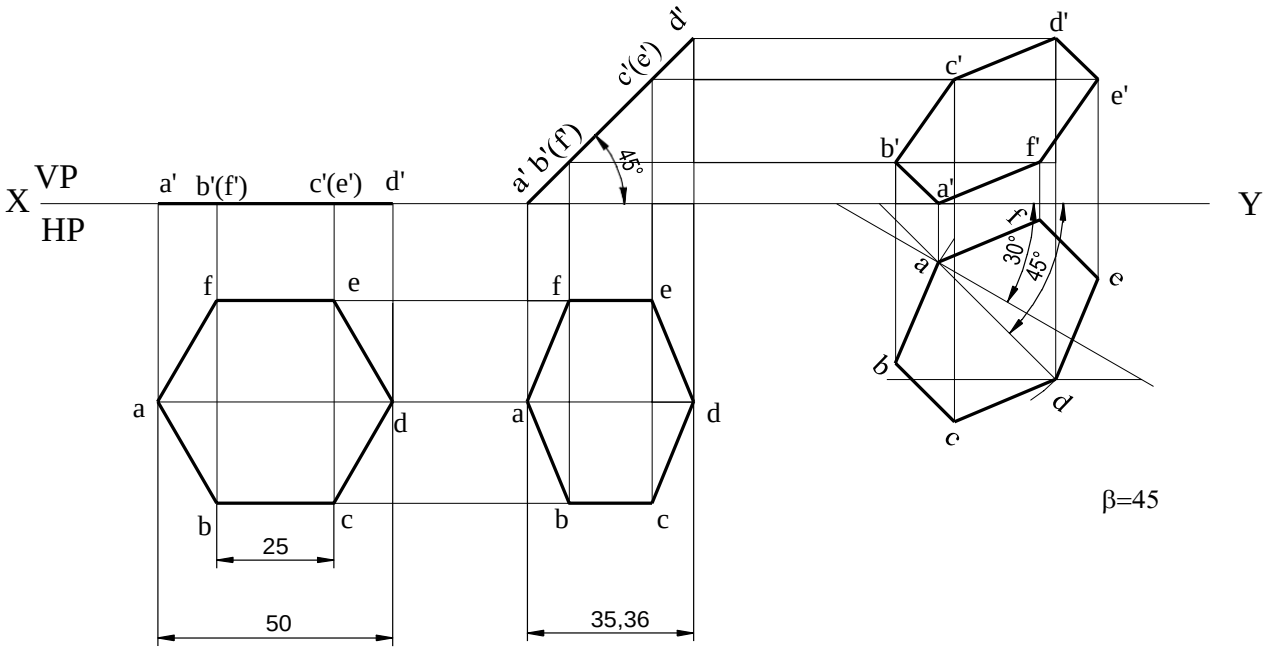
13) A regular hexagonal lamina of sides 25mm is lying in such a way that one of its sides on HP while the side opposite to the side on which it rests is on VP. If the lamina makes 60^0 to HP. Draw the projections of the lamina.



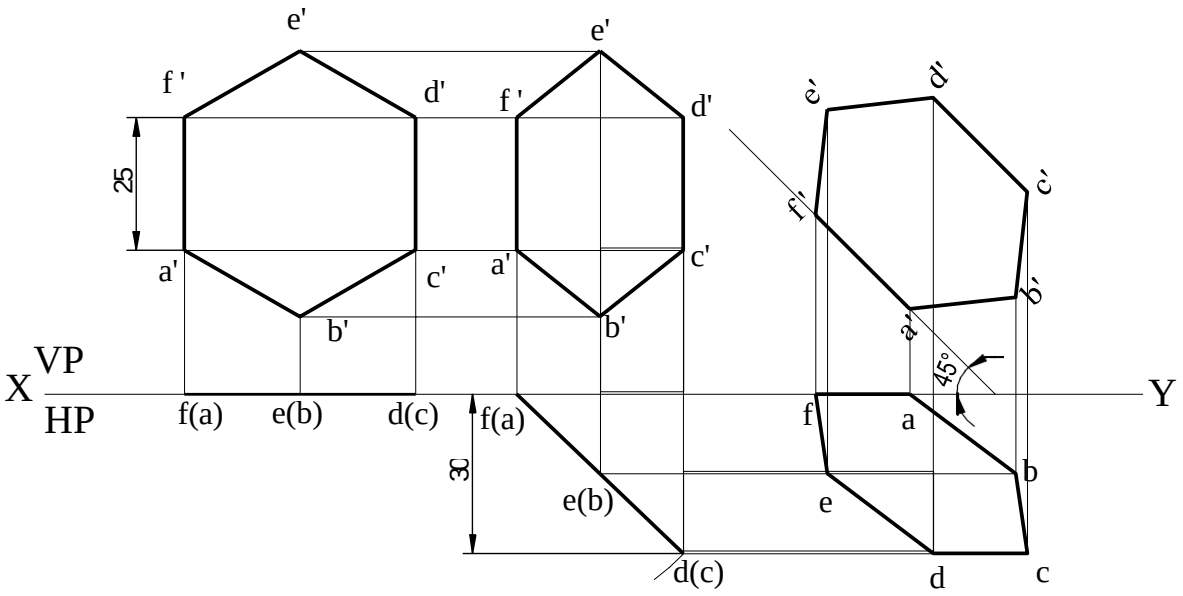
14) A regular hexagonal lamina of side 25mm is lying in such a way that one of its corner on HP while the corner opposite to the corner on which it rests is on VP. If the lamina makes 60^0 to HP. Draw the projections of the lamina. [***Assignment***]



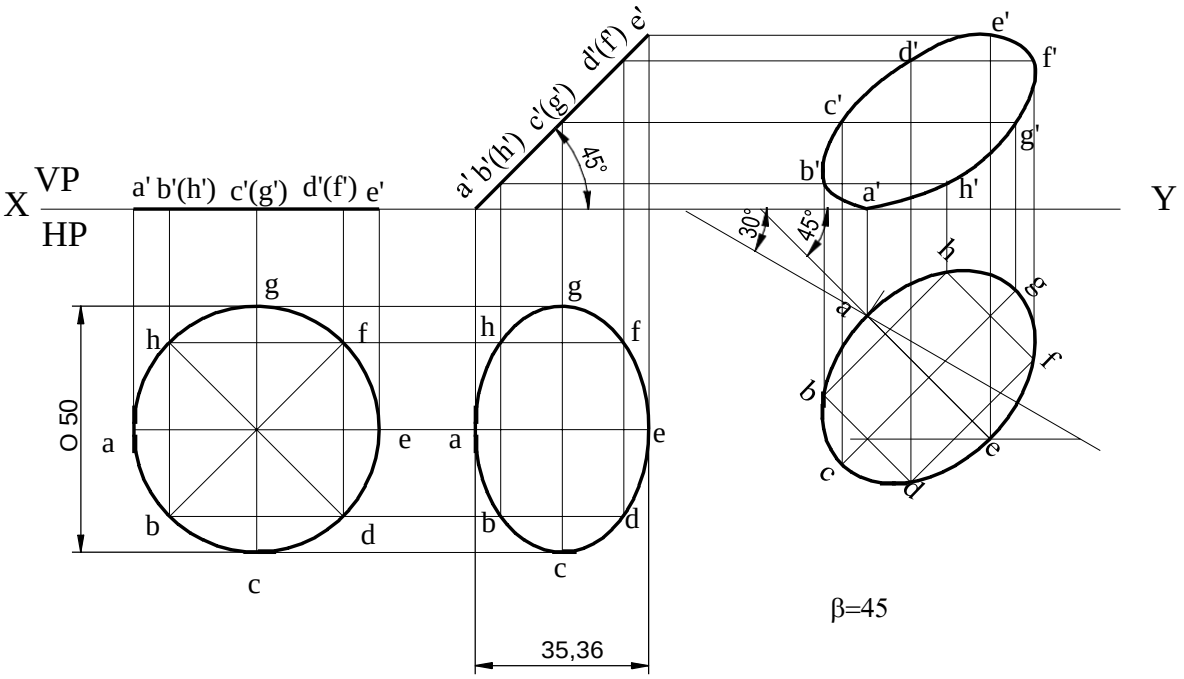
15) A hexagonal lamina of sides 25mm rests on one of its corner on HP. The lamina makes 45^0 to HP and the diagonal passing through the corner on which it rests is inclined at 30^0 to VP. Draw its projections.



16) A hexagonal lamina of sides 25mm rests on one of its sides on VP. The side opposite to the side on which it rests is 30mm in front of VP and the side on which it rests makes 45^0 to HP. Draw its projections. Also determine the inclination of the lamina with the reference plane.



17) A circular lamina of 50mm diameter rests on HP such that one of its diameters is inclined at 30^0 to VP and 45^0 to HP. Draw its top and front views in this position.



18) A circular lamina inclined to the VP appears in the front view as an ellipse of major axis 30mm and minor axis 15mm. the major axis is parallel to both HP and VP. One end of the minor axis is in both the HP and VP. Draw the projections of the lamina and determine the inclination of the lamina with the VP.