Sheet No. 11 - Projection of Solids II

1. Draw the projections of a cone, base 45 mm diameter and axis 50 mm long, when it is resting on the ground on a point on its base circle with (a) the axis making an angle of 30° with the H.P. and 45° with the V.P.; (b) the axis making an angle of 30˚ with the H.P. and its top view making 45° with the V.P.
2. A square pyramid, base 38 mm side and axis 50 mm long, is freely suspended from one of the corners of its base. Draw its projections, when the axis as a vertical plane makes an angle of 45˚ with V.P.
3. A rectangular bock 75*50*25 mm thick has a hole of 30 mm diameter drilled centrally through its largest faces. Draw projections when the block has its 50mm long edge parallel to H.P. and perpendicular to V.P. and has its axis of the hole inclined at 60˚ to H.P.
4. A cylindrical block 75 mm diameter and 25 mm thick, has a hexagonal hole of 25 mm side, cut centrally through its flat faces. Draw the three views of the block when it has its flat faces vertical and inclined at 30˚ to V.P. and two faces of the hole parallel to H.P.
5. A tetrahedron of 75 mm long edges has one edge parallel to H.P. and inclined at 45˚ to V.P. while the face containing that edge is vertical. Draw its projections.
6. A pentagonal prism is resting on the corner of its base on the ground with a longer edge containing the corner inclined at 45˚ to H.P. and the vertical plane containing that edge and the axis inclined at 30˚ to V.P. Draw its projections. Base 40 mm side; height 65 mm.
7. A frustum of a pentagonal pyramid, base 50 mm side, top 25 mm side and axis 75 mm long, is placed on its base on the ground with an edge of the base perpendicular to V.P. Draw its projections. Project another top view on a reference line parallel to the line, which shows the true length of the slant edge. From this top view, project a front view on an auxiliary vertical plane inclined at 45˚ to the top view of the axis.
8. One of the body diagonals of a cube of 45mm edge is parallel to the H.P. and inclined at 45˚ to the V.P. Draw the three views of the cube.