HW -7. SECTION OF SOLID

1. A pentagonal prism is resting on H.P. on one of its rectangular faces with axis of the prism parallel to H.P. and V.P. both. It is cut by Auxiliary Vertical Plane perpendicular to H.P, and inclined to V.P. by 45 degree passing through a point on the axis 15 mm from one end. Draw three principal projections with sections and also draw the true shape of section. Take side of base 45 mm and height 80 mm.

2. A hexagonal prism, side of base 25 mm and height 70 mm, rests on H.P on one of its longer. The rectangular faces containing the longer edge, on which it rests, make equal angles with the H.P The axis of the prism remains parallel to V.P. It is cut by A.I.P. making 30 degree with H.P bisecting the axis of the prism. Draw projections and the true shape of section.

3. A cone, diameter of base 60 mm and axis 70 mm long, is resting on its base on the H.P. It cut by an A.I. P so that the true shape of section is an isosceles triangle having 50 mm. Draw the front view, sectional top view and sectional side view. Also find the true length of sides of isosceles triangle in the true shape of section. (Ans :L=76mm, θ=76.5)

4. A plastic bucket, of height 400 mm and bottom and top diameter of 200 mm and 300 respectively contains certain quantity of water. The water from the bucket is about to out when the bucket is tilted about the base-rim through an angle of 45 degree. Draw the top and front view of this inclined bucket and also the true shape of the free surface of the which is about to come out from it.

5. A hexagonal pyramid, side of base 25 mm and height 65 mm, is lying on the H.P on one of its triangular faces with the axis parallel to VP. It is cut by A.VP. Inclined to V.P by 30 degree bisecting the axis. Draw the projections and draw also the true shape of section.