Date: 05-12-2023

Section and Development of surfaces

1. A square pyramid, base 30 mm and axis 40 mm long stands vertically on the H.P. with the edges of a base equally inclined to the V.P. It is cut by the section plane perpendicular to the V.P, inclined at 45° to the H.P. and passing through the point on the axis 25 mm from the apex. Draw the F.V, sectional T.V and true shape of the section.

2. A right circular cone of base diameter 40mm, axis height 50 mm has its basein the H.P. It is cut by an auxillary inclined plane which makes an angle of 45° to the H.P. and passes through the point on the axis 20 mm below the apex. Draw the sectional T.V, F.V and the true shape of the section.

3. A cone, base diameter 60 mm and axis 70 mm long is resting on its base on the ground(H.P). It is cut by a vertical section plane, the H.T of which makes an angle of 60° with the reference line and is 8mm away from the T.V of the axis. Draw the T.V, sectional F.V and and true shape of the section.

4. A square pyramid 30 mm edge of base, 50 mm axis length rests vertically on its base with adjacent edges of base equally inclined to V.P. It is cut by cutting plane perpendicular to V.P and inclined at 45° to H.P, such that it bisects the axis. Draw the development of the lateral surface of the major part of the pyramid.

5. A hexagonal prism with 28mm sides of base and 65 mm axis height is resting its base on H.P. and has one side of base perpendicular to V.P. The front view is given in **figure 5**. Draw the top view, sectional front view of the prism. Also draw the true sectional shape and the development of the lateral surface of the prism remaining after the section.

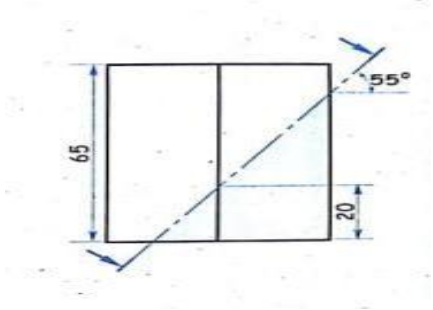

figure 5

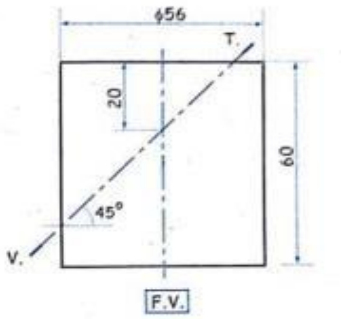

figure 6

6. The **figure 6** shows the front view of a cylinder with axis perpendicular to H.P. and parallel to V.P. It is cut by a cutting plane. The V.T. of the cutting plane inclined at 45° to H.P. and perpendicular to V.P. Given dia of base =56 mm. Length of the axis =60mm. Draw the
(i) Front view,
(ii) Sectional top view
(iii) True shape of the section
(iv) Development of the lateral surface