

2 b) A hexagonal lamina of 30 mm sides is on HP on one of its sides. The side which is on HP is perpendicular to the VP and the surface of the lamina is inclined to the HP at 45° . The lamina is then rotated through 90° such that the side is on HP is parallel to the VP, while the surface is still inclined to the HP at 45° . Draw the front view and top view of the lamina in its final position. (20)

3 a) A cube of 30 mm sides is held on one of its corners on HP such that one of the bottom square faces containing that corner is inclined at 30° to HP. Two of its square faces are equally inclined to the VP. Draw the top and front views of the cube. (20)

[OR]

3 b) A hexagonal pyramid has an altitude of 60 mm and side of base 30 mm. The pyramid rests with one of its sides of the base on HP such that the triangular face containing that side is perpendicular to HP. Draw the top and front views. (20)

4 a) A vertical cylinder of 80 mm diameter and 100 mm high is cut by a section plane perpendicular to VP and inclined at 45° to the axis so as to pass through the top end of one of the extreme generators in the front view. Draw the development of the lateral surface of the truncated cylinder providing a minimum length at the joint. (20)

[OR]

4 b) A cone diameter of base 60 mm and axis 70 mm long, is resting on its base on HP. It is cut by a section plane perpendicular to VP and inclined at 45° to HP. The vertical trace of the section plane passes through the axis at a point 40 mm above HP. Draw the sectional top view, front view and the true shape of section. (20)

5 a) Draw the isometric projection of a frustum of hexagonal pyramid of base edges 20 mm sides and top edges 8 mm sides and axis 55 mm long when its base is on HP. (20)

[OR]

5 b) A rectangular prism, sides of base 50 mm X 30 mm and height 55 mm rests with its base of the ground plane. A vertical edge is in the picture plane and one of the longer edges of its base is inclined at 45° to PP and behind it. The station point is 50 mm in front of PP, 75 mm above the ground plane and lies in a central plane which passes through the centre of the prism. Draw the perspective view using vanishing point method. (20)