

2. (a) A straight line AB has its end point A 15 mm in front of V.P. while the other end B is 50 mm in front of V.P. The plan view of the line is 50 mm long and the HT of the line is 10 mm in front of V.P. Draw the projection of the line if it is inclined at 30° to the H.P. Also find its VT.

Or

- (b) A rhombus ABCD has its diagonal AC = 50 mm and BD = 80 mm. The side AB of the plane is in the H.P. The side BC is in the V.P and the plane makes an angle 30° with the H.P. Obtain the projections of the plane and find its inclination with the V.P.
3. (a) Draw the projections of a cube of edge 45 mm resting on one of its corners on HP, with a solid diagonal perpendicular to HP. (20)

Or

- (b) A square pyramid of base 40 mm and axis 70 mm long has one of its triangular faces on VP and the edge of base contained by that face perpendicular to HP. Draw its projections. (20)
4. (a) A vertical cylinder 40 mm diameter is cut by a vertical section plane making 30° to VP in such a way that the true shape of the section is a rectangle of 25 mm and 60 mm sides. Draw the projections and true shape of the section. (20)

Or

- (b) A rectangular pyramid 60 mm \times 50 mm and height 75 mm is resting on its base on HP with its longer base edges parallel to VP. It is sectioned by a plane perpendicular to VP, inclined at 65° to HP and passing through the mid-point of the axis. Develop the lateral surfaces of the cut pyramid. (20)
5. (a) A hexagonal prism of base side 20 mm and height 40 mm has a square hole of side 16 mm at the centre. The axes of the square and hexagon at prism coincide. One of the faces of the square hole is parallel to a face of the hexagon at prism. Draw the isometric projection of the prism with hole to full scale. (20)

Or

- (b) Steps provided for an LIG house consist of three treads of 250 mm each and three rises of 150 mm each. The length of the steps is 1000 mm. The steps are parallel to the picture plane. The nearest face of the steps is 500 mm behind the PP. The station point is 2000 mm in front of the PP and 1000 mm above the ground. The station point lies in a central plane 1250 mm to the right of the right extreme face of the steps. Draw the perspective view of the steps. (20)