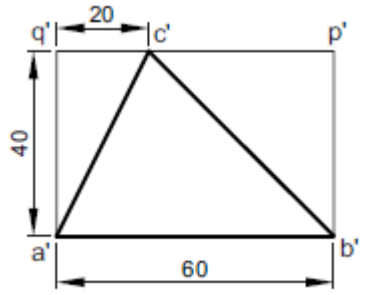
Assignment 4

Planes

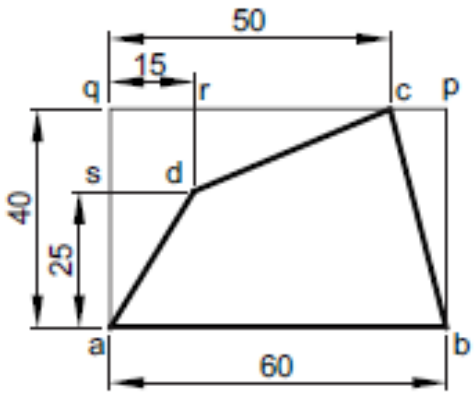
1. Draw the isometric view of a square of side 40 mm kept in (a) vertical position and

(b) horizontal position.

2. Draw the isometric view of a triangle ABC whose front view is shown in Fig.



3. Draw the isometric view of a quadrilateral ABCD whose top view is shown in Fig.



4. Draw the isometric view of a hexagon of side 30 mm whose surface is parallel to the H.P. and a side parallel to the V.P.

5. Draw the isometric view of a hexagonal plane of side 40 mm whose surface is parallel to the V.P. and a side perpendicular to the H.P.

6. Draw the isometric view of a circle of diameter 60 mm on all the three principal planes using coordinate method.

Simple solids

1. Draw an isometric projection of a pentagonal prism of base side 35 mm and axis 60 mm. The prism rests on its base on the H.P. with an edge of the base parallel to the V.P.

2. Draw the isometric view of a cylinder of base diameter 50 mm and axis 60 mm. The axis of the cylinder is perpendicular to the (a) H.P., (b) V.P.

3. Draw the isometric view of a pentagonal pyramid of base side 30 mm and axis 50 mm. The pyramid is kept on its base on the (a) H.P. (b) V.P.

4. Draw the isometric projection of a cone of base diameter 50 mm and axis 60 mm. The cone has its base on the (a) H.P. (b) V.P.

Composite solids

1. A square pyramid of base side 25 mm and axis 40 mm rests centrally over a cylindrical block of base diameter 50 mm and thickness 20 mm. Draw the isometric projection of the arrangement.

2. A hexagonal prism of base side 30 mm and axis 50 mm has an axially drilled square hole of sides 25 mm. One of the faces of the square hole is parallel to a face of the hexagon. Draw the isometric projection.

3. A cone is placed centrally on the top of a cube of 40 mm side which is placed centrally over a cylindrical block. The cone has its base diameter 30 mm and axis 30 mm. The cylindrical block has its base diameter 70 mm and thickness 20 mm. Draw isometric projection of the arrangement.

TRUNCATED SOLID

1. Draw the isometric projection of the frustum of a hexagonal pyramid of base side 40 mm, top side 25 mm and height 70 mm. The frustum rests on the base on the H.P.

2. Draw the isometric projection of the frustum of a cone of base diameter 60 mm, top diameter 30 mm and height 55 mm.

3. A hemisphere diameter 50mm is resting on its curved surface centrally on the top face of frustum of a rectangular pyramid base 80mm x 60mm and top 60mm x 40mm, height 55mm. Draw the isometric projection of combined solids.