F.Y. BTech Sem. II – (Academic Year 2021-22)

List of Problems to be solved in AutoCAD Practical
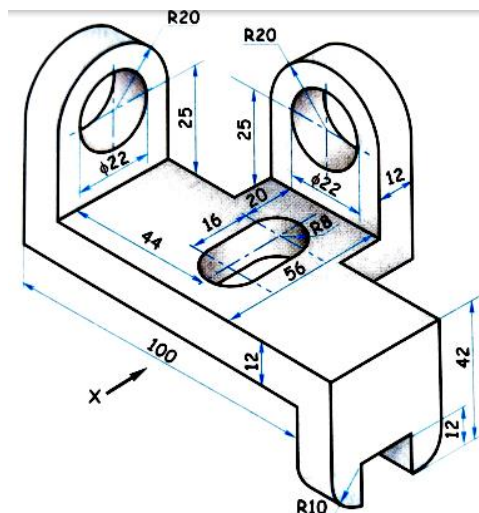
Sheet No. 1 (Projection of Lines & Planes)

> **CO $_1$:** Projection of lines and planes.

1. A line PQ, 80 mm long is inclined to VP at 45^0. End P is 20 mm above HP and in VP and end Q is 55 mm above HP. Draw projections and find true inclination of line with HP.

2. The FV of line CD is inclined at 40^0 to the XY. End C is 15 mm below HP and 25 mm behind VP, end D is 45 mm below HP and 70 mm behind VP. Draw projections of line CD and find its true length and true inclination with VP.

3. ABC is a thin plate in a shape of an isosceles triangle has base 35 mm and altitude 50 mm long. Its base is in VP with its surface perpendicular to HP and inclined to VP such that the FV appears as an equilateral triangle. Draw the projections and find angle made by plate with VP.

4. A circular plate of 60 mm diameter is inclined to HP in such a way that TV appears as an ellipse of major axis 35 mm. Draw projections of plate and find its inclination with HP.

Sheet No. 2 (Orthographic and Sectional Orthographic Projections)

> **CO $_2$:** Orthographic and sectional views of any 3D object.

1. Figure shows pictorial view of object. Draw the following views using the first angle method of projections, a) Plan   b) Elevation in the direction of arrow X c) Right Hand Side View.
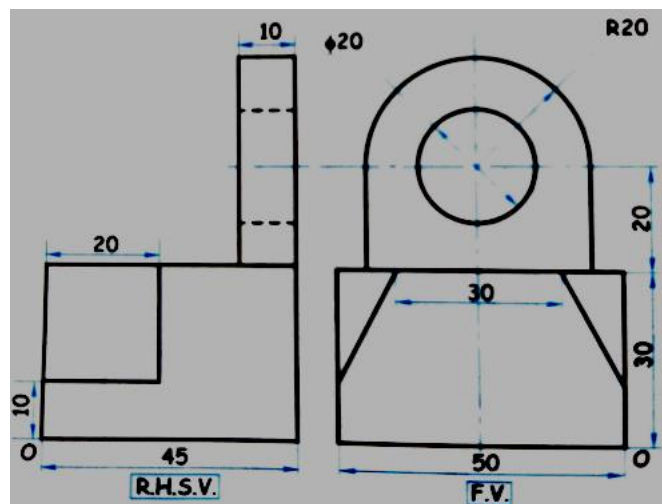
2. 2. Draw the following views by using first angle method of projection,
- Sectional FV along the direction X and along section plane A-A;
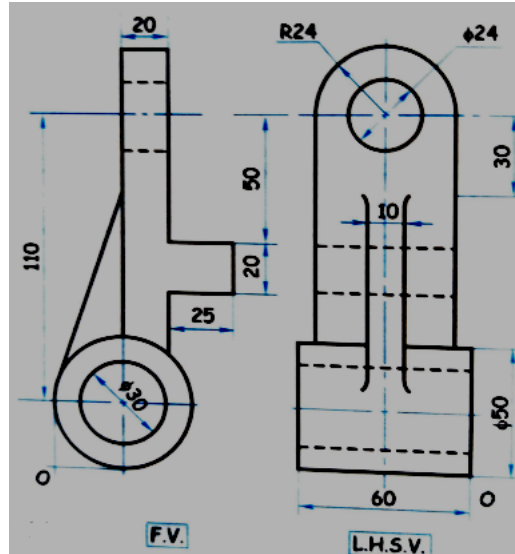- Top View
- RHSV
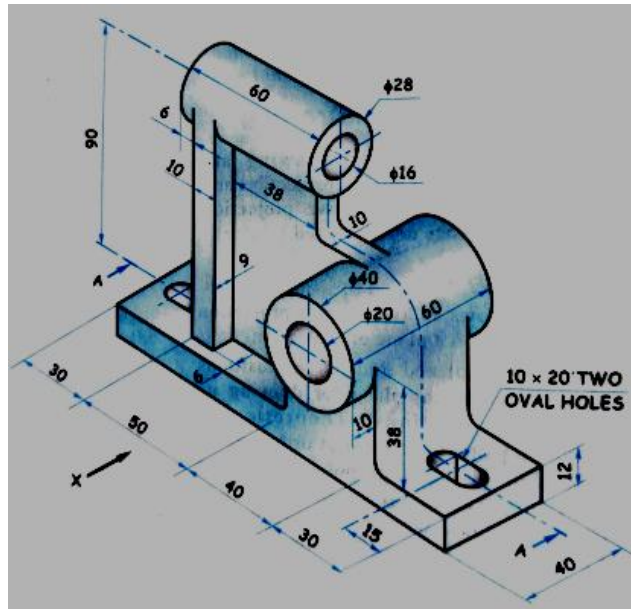
Sheet No. 3 (Isometric drawing**)**

CO₃: Isometric drawing**.**

1. Figure shows the front view and side view of an object. Draw its isometric Drawing about an origin 'O'.

2. Figure shows the Front view and Top View of an object. Draw its isometric projection about an origin 'O'.

F.V.   L.H.S.V.

Sheet No. 4 (Projection of Solids)

> **CO 4:** Projection of regular solids.

1. A pentagonal prism, having 25 mm edge of base and 60 mm axis height, has one of its corners in HP. The axis is inclined at 30° to the HP and TV of an axis is inclined at 45^0 to VP. Draw the projection of prism.

2. A cone of 55 mm diameter of the base and 70 mm length of the axis has one of its generators on HP and inclined at 45^0 to VP. Draw projections of cone.

Sheet No. 5 (Section of Solids and development)

> **CO 5:** Section and lateral development of regular solids.

1. A cylinder of 30 mm diameter and axis 50 mm long stands vertically in its circular base. It is cut by an AIP inclined at 45^0 to HP bisecting the axis of cylinder. Draw its FV, Sec. TV, Sec. SV and true shape of section.

2. A square pyramid side of base 30 mm and axis 70 mm long is resting on its base with one of the side of base perpendicular to VP. It is cut by a cutting plane perpendicular to VP and inclined at 60^0 to HP passing through the midpoint of axis. Draw Front view, Sectional top view, and true shape of section. Also draw the development of lateral surface of pyramid.