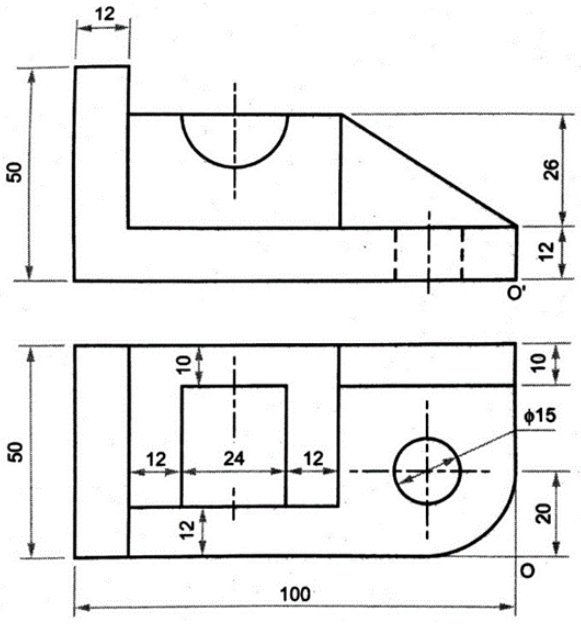
Q.1) 10 Marks Questions:

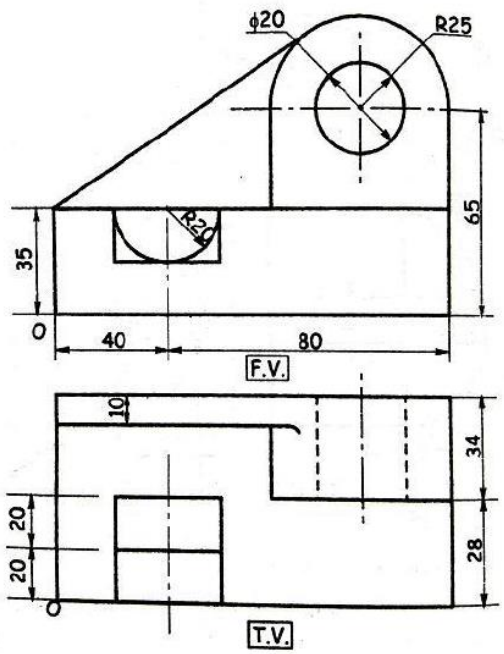
1) A string of length 120 mm is wound around a disc of diameter 30 mm. Draw the curve traced by the string while it is wound around the disc. Name the curve.
2) A circular disc of diameter 60 mm is rolling without slipping on a straight smooth surface. Draw a curve traced by a point on the circumference of the disc and touching the surface. Also draw tangent at any point of your choice.
3) The front view of a line AB 80 mm long, measures 60 mm. The end A is 15 mm in front of V.P. and 10 mm above H.P. and the end B is in third quadrant. Draw the projections of the line, if the line is inclined 30^0 to H.P. Determine its inclination with V.P.
4) The end P of a line PQ, 120 mm long is in IInd quadrant and 20 mm from both the reference planes. End Q is in IIIrd quadrant. The line is inclined at 30° with H.P. and the distance between the end projectors measured parallel to XY line is 80 mm.

Q.2) 15 Marks Questions:

1) A pentagonal pyramid side of the base of the pyramid is 35 mm and axis is 70 mm is having one of its base edge in HP with triangular surface containing this edge perpendicular to HP, parallel to VP and away from the observer. Draw its projections.
2) A cone, base 50 mm diameter and axis 60 mm long rests on its circular rim on the HP. with the axis making an angle of 30 degree with the H.P. and its top view making an angle of 45 degree with the V.P. Draw its projections if apex is nearer to observer.
3) A right circular cylinder diameter of base 50 mm and axis height 70 mm has one of the circumference point of base in the HP, such that its axis is inclined at 30^0 to the HP & top view of the axis also makes 30^0 with VP. Draw its projections.
4) A pentagonal prism of 40 mm edge of base and 70 mm length of axis is having an edge of base in the HP and the rectangular face containing that edge is inclined 30^0 to HP and perpendicular to VP. Draw the projections.
5) Figure shows two views of an object. Draw its isometric views.

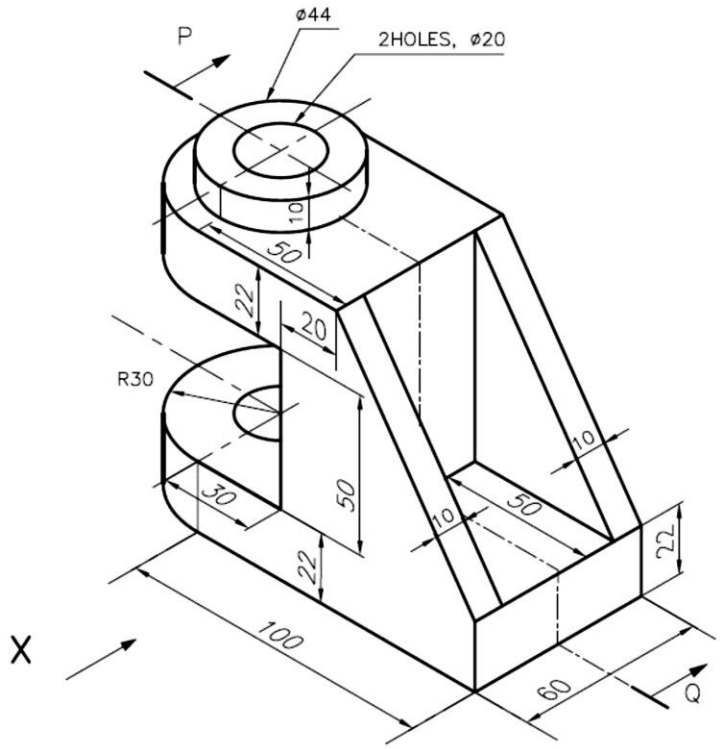


6) Figure shows two views of an object. Draw its isometric views.



Q.3) 20 Marks Questions:

1) For the object shown in figure draw the following views –
   i. Sectional front view along section P-Q.
   ii. Side view from right
   iii. Top view
   iv. Insert the major dimensions



2) For the object shown in figure draw the following views –
   i. Sectional front view along section A-A.
   ii. Left Hand Side view
   iii. Top view
   iv. Insert the major dimensions