

QUESTION BANK

INTRODUCTION

1. Write lettering and numbering in 4, 6 & 8 mm.
2. Draw polygon of 30 mm with the help of universal method.
3. The map of Gujarat represents 1 cm =5 kms. Measure the distance between Ahmedabad and Baroda. Also measures the distance between Ahmedabad to anand.

Ahmedabad to Baroda = 100km

Ahmedabad to Anand = 65 km

4. Draw the title block with dimension.
5. Draw the different types of dimensioning system.
6. Write types of line with its application.



ENGINEERING CURVE

1. Three non-linear points are A, B & C placed on the space. Where $AB = 100\text{mm}$, $BC = 55\text{ mm}$, $AC = 75\text{ mm}$. draw the ellipse passing from all three points.
2. A jet nozzle discharges the water at the angle of 45° . Water gets the maximum distance is 9 m. draw the curve trace by the water.
3. Major axes = 100 mm & minor axes = 70 mm. draw an ellipse with the help of half concentric circle method and half rectangle method.
4. An insect is placed at the end of diameter and it is coming to centre at uniform velocity. And plate is rotate anticlockwise direction. Draw the curve trace path by an insect when it is reached at centre.plate diameter is 120mm.
5. A point is placed at the XY plane. Point is 30 mm from the y axes and 40 mm from x-axes. Draw the hyperbola passing from the point.
6. Draw a line spiral of 10 mm for 5 turn.

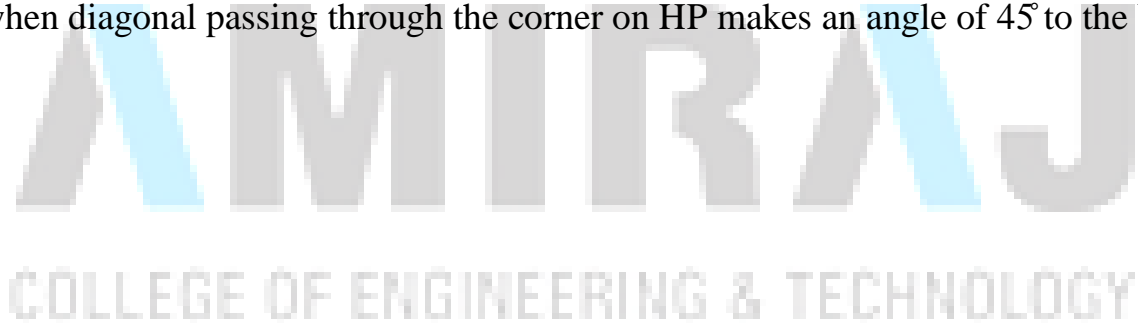


PROJECTION OF POINT AND LINE

1. Draw the projections of the following points on the same X-Y line.
 - a) A point 'A' 40 mm below HP and 40 mm in front of VP.
 - b) A point 'B' 35 mm above HP and 45 mm in front of VP.
 - c) A point 'C' on the VP and 30 mm above HP.
 - d) A point 'D' on the VP and HP both.
2. A line AB, 70 mm long is inclined at an angle of 45° to the VP its end point 'A' is on the HP and 25 mm in front of the VP. Draw the projections of line assuming the line is in the first quadrant.
3. A line AB, 75 mm long is inclined at an angle of 35° to the HP and 55° to the VP. Its end point A is on the HP and 15 mm in front of VP. Draw the projections of line assuming the line is in the first quadrant.
4. The distance between end projectors of the line PQ is 130 mm point P is 40 mm below HP and 25 mm in front of VP. Point Q is 75 mm above HP and 30 mm behind VP. Draw the projection of line and find out its true length and inclination with HP and VP.
5. A line AB is having its end A is 10 mm, above HP and 30 mm in front of VP. The end B is below HP and behind VP. Draw the projections of line AB if the plan length is 80 mm. also, find the true length of the line.

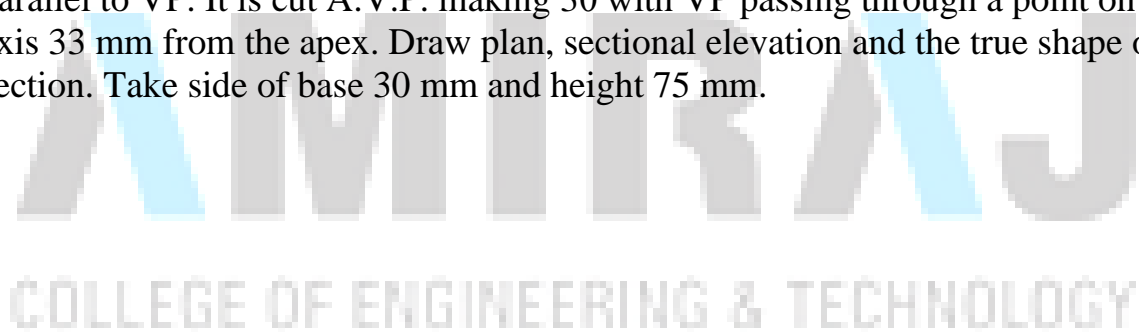
PROJECTION OF PLANE

1. An elliptical plane with major axis 70 mm and minor axis 50 mm is inclined to HP, such that the top plan of the plane is a circle. Draw the projections of the plane when the major axis is inclined at 30° to the VP. Find the inclination of the plane with the HP. Use the concentric circle method to draw the top plan of the plane in the initial stage.
2. ABCD is a rhombus of diagonal $AC = 100$ mm and $BD = 70$ mm. its corner A is in the HP and the plane is inclined to the HP such that the plan appears to be a square and the plan of the diagonal AC makes an angle of 20° to the VP. Draw the projections of the plane and find its inclination with the HP.
3. ABCDE is a regular pentagonal plate of 40 mm sides, has its corner A on the HP the plate is inclined at 30° to the HP such that the side CD is parallel to both the reference planes. Draw the projections of plane.
4. A regular hexagonal plane of 30 mm sides has one of its corner on the HP. The surface of the plane is inclined at 30° to the HP. Draw the projection of the plane when diagonal passing through the corner on HP makes an angle of 45° to the VP.



PROJECTION OF SOLID SECTION OF SOLID

1. A frustum of cone, having base diameter 60 mm, top base diameter 25 mm and axis 45 mm, is resting on one of its generators on HP. The axes of the frustum make an angle of 30° with VP. Draw the projections of the solid.
2. A circular cone is of 60 mm base diameter and 80 mm long generator. It is resting on the HP with one of the points of its base on it and the apex 55 mm above it. Draw the projection of the cone when the plan of the axis is inclined at 45° to the VP. Measure the inclination of the cone with the HP.
3. A cylinder glass jar, diameter of the base 60 mm and height 75 mm, is completely filled with water. It is then on the rim of its base in such a manner so that the water is drained out. Also draw the projections of jar when its axis is inclined to 60° with HP.
4. A hexagonal pyramid is resting on one of its triangular face with axis remaining parallel to VP. It is cut A.V.P. making 30° with VP passing through a point on the axis 33 mm from the apex. Draw plan, sectional elevation and the true shape of section. Take side of base 30 mm and height 75 mm.



2. Draw the Sectional Front view take the section along A-B, Top view and R.H.S.V of the below figure using 3rd angle method.

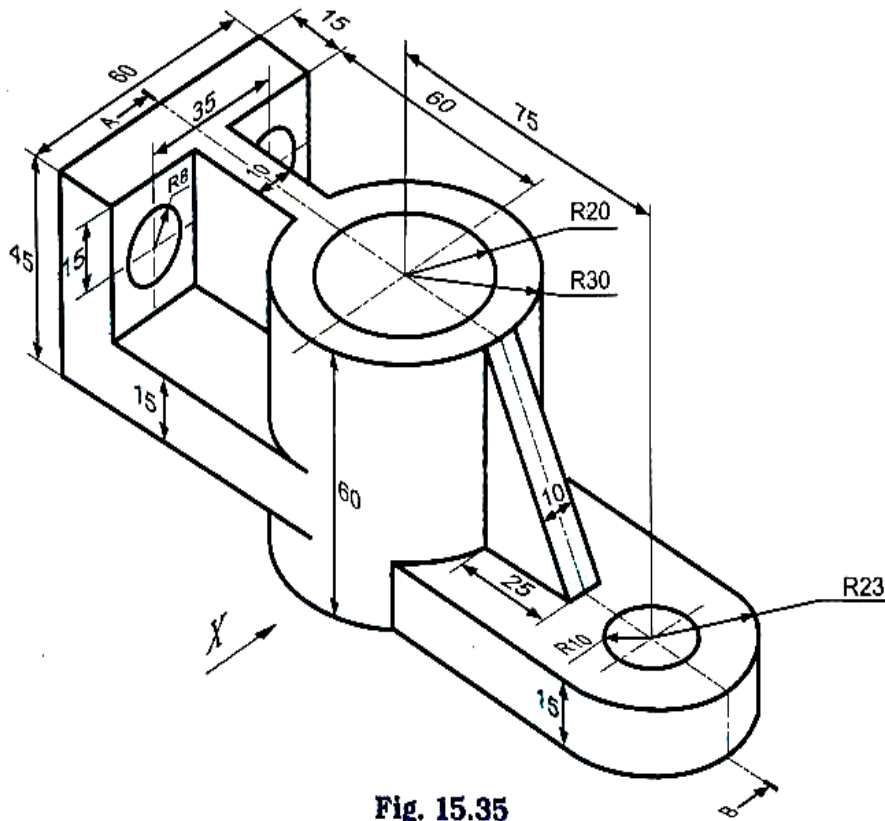
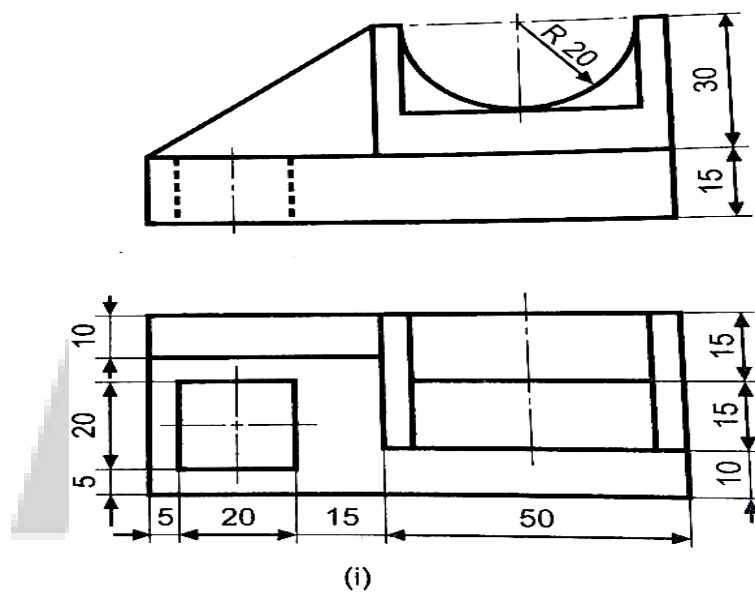


Fig. 15.35

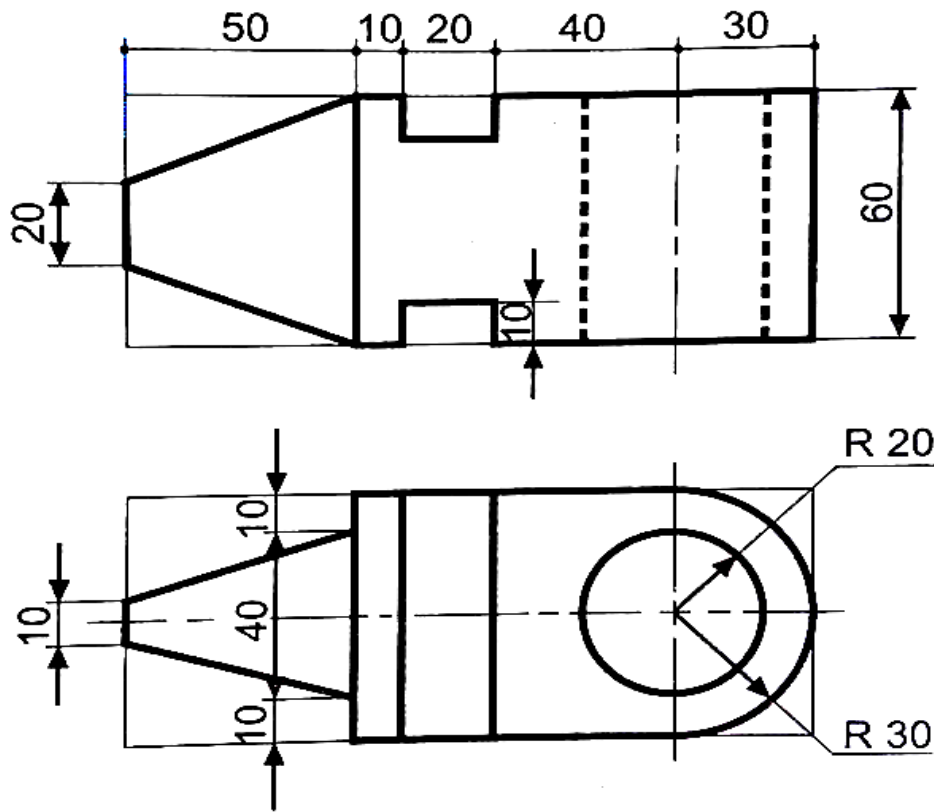
ISOMETRIC PROJECTION

1. Draw the isometric of machined component from the given F.V. and T.V. in below figure.



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2. In below figure F.V. and T.V. of the object is given in the 1st angle system. Draw the isometric view.



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