

Code No: 51014

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD****B.Tech I Year Examinations, December-2014/January-2015****ENGINEERING DRAWING****(Computer Science and Engineering)****Time: 3 hours****Max. Marks: 75****Answer any five questions****All questions carry equal marks**

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1. Describe a cycloid when the diameter of the generating circle is 35 mm and the length of the directing line is 165 mm. Assume the circle to roll over the entire length of the directing line. Assume the point on the curve to be at the top of the circle in its initial position.
2. A line AB of 90 mm long is inclined at  $45^{\circ}$  to HP and its top view makes an angle of  $60^{\circ}$  with XY. The end A is on HP and 12 mm in front of V.P. Draw its projections and find its inclination with V.P.
3. A regular hexagonal lamina with its edge 50 mm has its plane inclined at  $45^{\circ}$  to H.P and lying with one of its edges in H.P. The plane of one of its diagonals is inclined at  $45^{\circ}$  to XY. The corner nearest to VP is 15 mm in front of it. Draw its projections.
4. A pentagonal pyramid base 30 mm side and axis 60 mm long lying on one of its triangular faces on the HP with the axis parallel to VP. A vertical section plane whose H.T bisects the top view of the axis and makes an angle of 30 degrees with reference line cuts the pyramid removing its top part. Draw the top view, sectional front view and true shape of the section.
5. A cylinder of 75 mm diameter standing on its base on HP is completely penetrated by another cylinder of 55 mm diameter with their axes intersecting at right angle. Draw the projections showing the lines of intersection, assuming that the axis of the smaller cylinder is parallel to VP.

6. Draw the isometric view for the following orthographic projections as shown in figure 1. All dimensions are in mm.

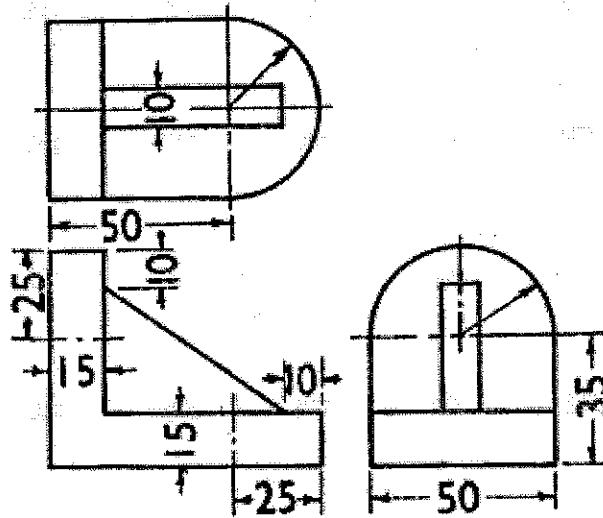


Figure: 1

7. For the isometric view shown below figure 2, draw a) front view b) top view and c) left side view. All dimensions are in mm.

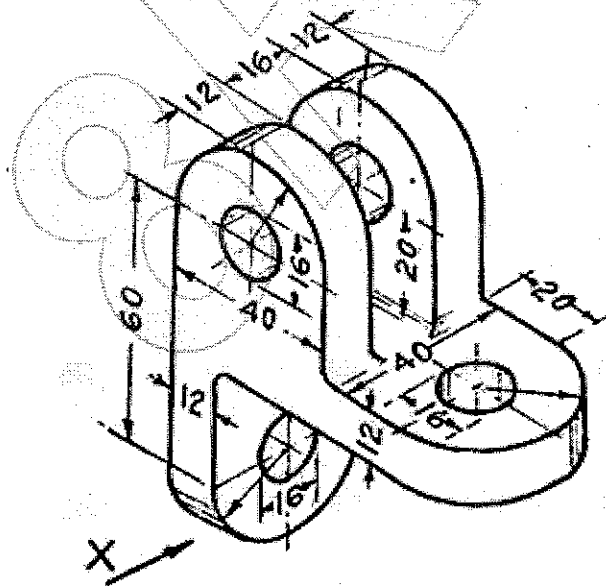


Figure: 2

8. A pentagonal lamina of 40 mm side lies on the ground. The corner which is nearest to PP is 15 mm behind it and an edge containing that corner is making  $45^\circ$  with PP. The station point is 40 mm in front of PP, 50 mm above GP and lies in a central plane which is at a distance of 70 mm to the left of the corner nearest to the PP. Draw the perspective projection of the lamina.

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