

**Code No: 111AJ****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD****B.Tech I Year Examinations, June - 2014****ENGINEERING DRAWING****(Common to ME, IT, MCT, MMT, MEP, AME, MSNT)****Time: 3 hours****Max. Marks: 75****Answer any five questions****All questions carry equal marks**

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- 1.a) Two straight lines OA and OB make an angle of  $75^{\circ}$  between them. P is a point 40 mm from OA and 50 mm from OB. Draw a hyperbola through P, with OA and OB as asymptotes, marking at least 10 points.
- b) A circle of 50 mm diameter rolls on a straight line without slipping. Draw the curve traced out by a point P on circumference, for one complete revolution of the circle. Name the curve. Draw the tangent to the curve at a point on it 40 mm from the line.

**OR**

- 2.a) Draw the involute of a square of 40 mm side.
- b) Construct a diagonal scale of R.F= 1/4000 to show metres and long enough to measure up to 500 meters.
3. A line AB, 65 mm long, has its end A in the H.P. and 15 mm in front of the V.P. The end B is in the third quadrant. The line is inclined at  $30^{\circ}$  to the H.P. and at  $60^{\circ}$  to the V.P. Draw its projections.

**OR**

4. PQRS is a rhombus having diagonal PR=60 mm and QS= 40 mm and they are perpendicular to each other. The plane of the rhombus is inclined to H.P. such that its top view appears to be square. The top view of PR makes  $30^{\circ}$  with the V.P. Draw its projections and determine inclination of the plane with the V.P.
5. A square prism, with the side of its base 40 mm and axis 70 mm long is lying on one of its base edges on the H.P. in such a way that this base edge makes an angle of  $45^{\circ}$  with the V.P. and the axis is inclined at  $30^{\circ}$  to the H.P. Draw its projections.

**OR**

6. A cube of 35 mm long edges is resting on the H.P. on one of its faces with a vertical face inclined at  $30^{\circ}$  to the V.P. is cut by a section plane, perpendicular to the V.P, inclined at  $45^{\circ}$  to the H.P. and passing through the top end of the axis. Draw its front view, sectional top view and true shape of the section.

7. Draw the development of the lateral surface of truncated cone shown in the following figure 1. All dimensions are in mm.

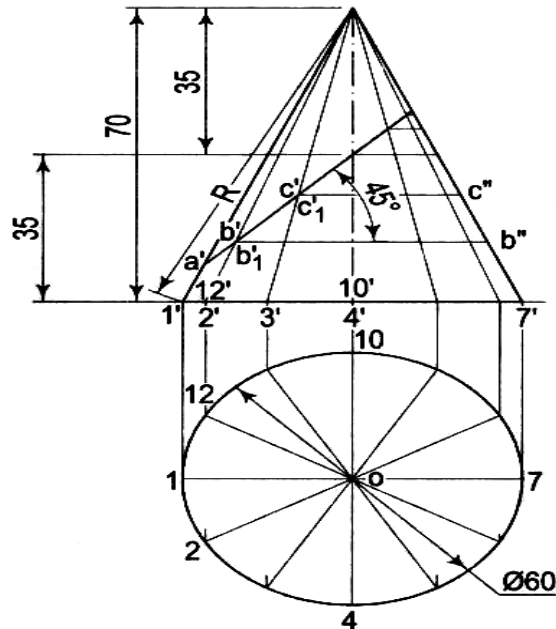


Figure: 1

OR

8. A vertical cylinder of diameter 50 mm and height 100mm is completely penetrated by a horizontal square prism, base 35 mm side so that their axes are 6 mm apart. The axis of the horizontal prism is parallel to the V.P., and the faces are equally inclined to the V.P. Draw the projections of the lines of intersection.
9. Draw the isometric view of the object whose orthographic projections are given in figure 2. All dimensions are in mm.

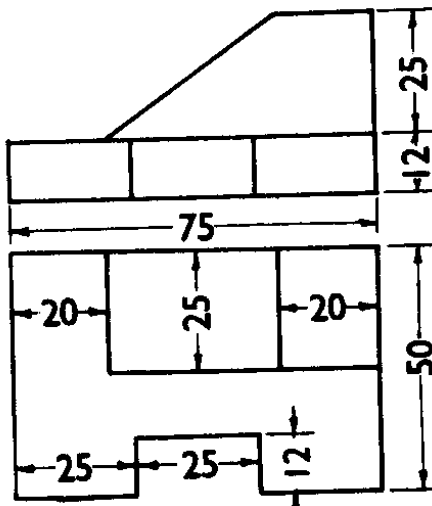


Figure: 2

OR

