I B.Tech Regular Examinations, May/Jun 2008<br>ENGINEERING DRAWING<br>( Common to Electrical \& Electronic Engineering, Electronics \&<br>Instrumentation Engineering and Electronics \& Computer Engineering) Time: 3 hours

## Answer any FIVE Questions All Questions carry equal marks

1. The vertex of a hyperbola is 65 mm from its focus. Draw the curve if the eccentricity is $3 / 2$. Draw a normal and a tangent at a point on the curve, 75 mm from the directrix.
[16]
2. Show by means of a drawing that when the diameter of the directing circle is twice that of the generating circle, the hypocycloid is a straight line. Take the diameter of the generating circle equal to 50 mm .
3. (a) A point A is 2.5 cm above the H.P. and 3 cm infront of the V.P. Draw its Projections.
(b) A point A is 2 cm below the H.P. and 4 cm behind the V.P. Draw its Projections.
(c) Two points A and B are in the H.P. The point A is 30 mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75 mm and the line joining their top views makes an angle of $45^{\circ}$ with xy. Find the distance of the point B form the V.P.
$[4+4+8]$
4. A line AB 120 mm long is inclined at $45^{0}$ to the H.P. and $30^{0}$ to the V.P. Its mid point C is in V.P. and 20 mm above H.P. The end A is in the third quadrant, and $B$ is in the first quadrant Draw the projections of the line.
[16]
5. (a) A regular pentagon of 25 mm side has one side on the ground. Its plane is inclined at $45^{\circ}$ to the H.P. and perpendicular to the V.P. Draw its projections.
(b) Draw the projections of a circle of 5 cm diameter, having its plane vertical and inclined at $30^{\circ}$ to the V.P. Its centre is 3 cm above the H.P. and 2 cm in front of the V.P.
[8+8]
6. (a) Draw the projections of a hexagonal prism of base 25 mm and axis 60 mm long, when it is resting on one of its corners of the base on H.P. The axis of the solid is inclined at $45^{\circ}$ to H.P.
(b) Draw the projections of a pentagonal prism of base 25 mm side and axis 50 mm long, when it is resting on one of its rectangular faces on H.P., the axis of the solid is inclined at $45^{\circ}$ to V.P.
7. Draw the isometric view of a Door-Steps having three steps of 22 cm tread and 15 cm rise. The steps measure 75 cm widthwise.
8. Draw the following views of the block shown in figure 8. All dimensions are in mm .


Figure 8
(a) Front View.
(b) Top view
(c) Both side views.

I B.Tech Regular Examinations, May/Jun 2008<br>ENGINEERING DRAWING<br>( Common to Electrical \& Electronic Engineering, Electronics \&<br>Instrumentation Engineering and Electronics \& Computer Engineering) Time: 3 hours<br>Max Marks: 80

## Answer any FIVE Questions All Questions carry equal marks

1. The foci of an ellipse are 80 mm apart and the minor axis is 55 mm long. Determine the length of the major axis and draw the ellipse by concentric-circle method. Draw a curve parallel to the ellipse and 20 mm away from it.
2. A circle of 50 mm diameter rolls on the circumference of another circle of 175 mm diameter and outside it. Trace the locus of a point on the circumference of the rolling circle for one complete revolution. Name the curve. Draw a tangent and a normal to the curve at a point 125 mm from the center of the directing circle. [16]
3. (a) A point A is 2.5 cm above the H.P. and 3 cm infront of the V.P. Draw its Projections.
(b) A point A is 2 cm below the H.P. and 4 cm behind the V.P. Draw its Projections.
(c) Two points A and B are in the H.P. The point A is 30 mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75 mm and the line joining their top views makes an angle of $45^{\circ}$ with xy. Find the distance of the point B form the V.P. $[4+4+8]$
4. (a) A 100 mm long line is parallel to and 40 mm above the H.P. Its two ends are 25 mm and 50 mm in front of the V.P. respectively. Draw it projections and find its inclination with the V.P.
(b) A line $\mathrm{AB}, 50 \mathrm{~mm}$ long, has its end A in both the H.P. and the V.P. Its is included at $30^{\circ}$ to the H.P and at $45^{0}$ to the V.P. Draw its projections. [8+8]
5. A circular plane of 60 mm diameter, rests on V.P. on a point A on its circumference. Its plane is inclined at $45^{\circ}$ to V.P. Draw the projections of the plane when
(a) The front view of the diameter AB makes $30^{\circ}$ with H.P. and
(b) The diameter AB itself makes $30^{\circ}$ with H.P.
6. (a) Draw the projections of a triangular prism, base 40 mm side and axis 50 mm long, resting on one of its bases on the H.P. with a vertical face perpendicular to the V.P.
(b) A cube of 50 mm long edges is resting on the H.P. with its Vertical faces equally inclined to the V.P. Draw its projections.
(c) A triangular prism, base 40 mm side and height 65 mm is resting on the H.P. on one of its rectangular faces with the axis parallel to the V.P. Draw its projections.
7. Draw the isometric view of the ribbed angle plate, Shown in figure 7 All dimensions are in mm .


Figure 7
8. Draw the front view, top view and left side views of V- block as shown in figure.8. All dimensions are in mm


Figure 8

I B.Tech Regular Examinations, May/Jun 2008<br>ENGINEERING DRAWING<br>( Common to Electrical \& Electronic Engineering, Electronics \& Instrumentation Engineering and Electronics \& Computer Engineering) Time: 3 hours

## Answer any FIVE Questions All Questions carry equal marks

1. 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 asympotes, marking at least ten points.
2. A circle of 35 mm diameter rolls on a horizontal line. Draw the curve traced out by a point R on the circumference for one half revolution of the circle. For the remaining half revolution, the circle rolls on the vertical line. The point R vertically above the center of the circle in the starting position.
3. (a) A point P is 15 mm above the H.P. and 20 mm in front of the V.P. Another point Q is 25 mm behind the V.P. and 40 mm below the H.P. Draw projections of P and Q keeping the distance between their projectors equal to 90 mm . Draw straight lines joining
i. their top views and
ii. their front views.
(b) A point 30 mm above xy line is the plan view of two points P and Q . the elevation of P is 45 mm above the H.P. while that of the point Q is 35 mm below the H.P. Draw the projections of the points and state their position with reference to the principal planes and the quadrant in which they lie.
[8+8]
4. (a) A 100 mm long line is parallel to and 40 mm above the H.P. Its two ends are 25 mm and 50 mm in front of the V.P. respectively. Draw it projections and find its inclination with the V.P.
(b) A line $\mathrm{AB}, 50 \mathrm{~mm}$ long, has its end A in both the H.P. and the V.P. Its is included at $30^{\circ}$ to the H.P and at $45^{0}$ to the V.P. Draw its projections. [8+8]
5. A regular hexagonal plane of 30 mm side, has a corner at 20 mm from V.P. and 50 mm from H.P. Its surface is inclined at $45^{\circ}$ to V.P. and perpendicular to H.P. Draw the projections of the plane.
6. (a) Draw the projections of a pentagonal pyramid, base 30 mm edge and axis 50 mm long, having its base on the H.P. and an edge of the base parallel to the V.P. Also draw its side view.
(b) Draw the projections of a hexagonal pyramid, base 30 mm side and axis 60 mm long, having its base on the H.P. and one of the edges of the base inclined at $45^{0}$ to the V.P.
(c) A square pyramid, base 40 mm side and axis 65 mm , long has its base in the V.P. One edge of the base is inclined at $30^{\circ}$ to the H.P. and a corner contained by that edge is on the H.P. Draw its Projections.
$[4+8+4]$
7. Draw the isometric view of the block, two views of which are shown in figure 7 . (All dimensions are in mm ).


Figure 7
8. Draw the front view, top view and left side views of V- block as shown in figure.8. All dimensions are in mm


Figure 8

I B.Tech Regular Examinations, May/Jun 2008<br>ENGINEERING DRAWING<br>( Common to Electrical \& Electronic Engineering, Electronics \&<br>Instrumentation Engineering and Electronics \& Computer Engineering) Time: 3 hours<br>Max Marks: 80

## Answer any FIVE Questions <br> All Questions carry equal marks

1. (a) Inscribe an ellipse in a parallelogram having sides 150 mm and 100 mm long and an inclined angle of $120^{\circ}$.
(b) Draw a rectangle having its sides 125 mm and 75 mm long. Inscribe two parabolas in it with their axis bisecting each other.
[8+8]
2. Draw a hypo cycloid of a circle of 30 mm diameter which rolls inside another circle of 160 mm diameter, for one revolution counter clock wise. Draw a tangent and a normal to it at a point 60 mm from the center of the directing circle.
3. Draw the projections of the following points on the same ground line, keeping the Projectors 20 mm apart.
(a) Point C, in the V.P. and 40 mm above the H.P.
(b) Point D, 25 mm below the H.P. and 25 mm behind the V.P.
(c) Point E, 15 mm above the H.P. and 50 mm behind the V.P.
(d) Point F, 40 mm below the H.P. and 25 mm infront of the V.P.
4. A line AB of 70 mm long, has its end A at 10 mm above H.P. and 15 mm in front of V.P. Its front view and top view measure 50 mm and 60 mm respectively. Draw the projections of the line and determine its inclinations with H.P. and V.P. [16]
5. Draw the projections of a circle of 60 mm diameter, resting on V.P. on a point on the circumference. The plane is inclined at $45^{0}$ to V.P. and perpendicular to H.P. The centre of the plane is 40 mm above H.P.
6. (a) Draw the projections of
i. a cylinder, base 40 mm diameter and axis 50 mm long, and
ii. a cone, base 40 mm diameter and axis 50 mm long, resting on the H.P. on their respective bases.
(b) A hexagonal prism has one of its rectangular faces parallel to the H.P. Its axis is perpendicular to the V.P. and 3.5 cm above the ground. Draw its projections when the nearer end is 2 cm in front of the V.P. Side of base 2.5 cm long, axis 5 cm long.
(c) A cube of 40 mm side rests with one of its square faces on the H.P. such that one of its vertical faces is perpendicular to V.P. Draw its projections. The nearest edge parallel to V.P. is 5 mm in front of it.
$[8+4+4]$
7. Draw the isometric view of the ribbed angle plate, Shown in figure 7 All dimensions are in mm .


Figure 7
8. Draw the elevation, plan, left and right side views of the part shown in the figure 8. (All dimensions are in mm ).


Figure 8

