

Anna University

B.E./B.Tech. DEGREE EXAMINATIONS, JANUARY 2010

Regulations 2008

First Semester

Common to all branches

GE2111 ENGINEERING GRAPHICS

Time: Three Hours Maximum: 100 Marks

Answer ALL Questions

(5 x 20 = 100 Marks)

1. (a) The focus of a conic is 50 mm from the directrix. Draw the locus of a point 'P' moving in such a way that its distance from the directrix is equal to its distance from the focus. Name the curve. Draw a tangent to the curve at a point 60 mm from the directrix.

(20)

OR

1. (b) Make free hand sketches of the front, top and right side views of the object shown below : (20)

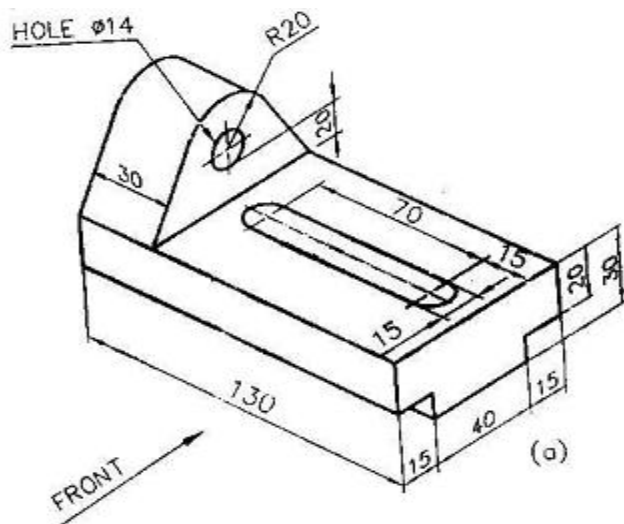


Fig. 1(b)

2. (a) The projections of a line measures 80 mm in the top view and 70 mm in the front view. The mid point of the line is 45 mm in front of VP and 35 mm above HP. One end is 10 mm in front of VP and nearer to it. The other end is nearer to HP. Draw the projections of the line. Find the true length and true inclinations. (20)

OR

2. (b) Draw the projections of a circle of 70 mm diameter resting on the H.P. on a point A of the circumference. The plane is inclined to the H.P. such that the top view of it is an ellipse of minor axis 40 mm. The top view of the diameter, through the point A is making an angle of 45° with the V.P. Determine the inclination of the plane with the H.P. (20)

3. (a) An equilateral triangular prism 20 mm side of base and 50 mm long rests with one of its shorter edges on HP such that the rectangular face containing the edge on which the prism rests is inclined at 30° to H.P. The shorter edge resting on HP is perpendicular to VP. (20)

OR

3. (b) Draw the projections of a hexagonal pyramid with side of the base 30 mm and axis 70 mm long, when it is resting with one of the base sides on HP such that the triangular face containing that side is perpendicular to HP and axis is parallel to VP. (20)

4. (a) A vertical cylinder 40 mm diameter is cut by a vertical section plane making 30° to VP in such a way that the true shape of the section is a rectangle of 25

mm and 60 mm sides. Draw the projections and true shape of the section.

(20)

OR

4. (b) A regular hexagonal pyramid side of base 30 mm and height 60 mm is resting vertically on its base on HP, such that two of its sides of the base are perpendicular to VP. It is cut by a plane inclined at 40° to HP and perpendicular to VP.

The cutting plane bisects the axis of the pyramid. Obtain the development of the lateral surface of the truncated pyramid. (20)

5. (a) A cylinder of 50 mm diameter and 75 mm height stands with its base on H.P. It is cut by a section plane inclined at 45° to H.P and perpendicular to V.P, passing through a point on the axis 20 mm below the top end. Draw the isometric projection of the truncated cylinder. (20)

OR

2 P1713

5. (b) Draw the perspective projection of a cube of 25 mm edge, lying on a face on the ground plane, with an edge touching the picture plane and all vertical faces equally inclined to the picture plane. The station point is 50 mm in front of the picture plane, 35 mm above the ground plane and lies in a central plane which is 10 mm to the left of the center of the cube. (20)