

I B.TECH – EXAMINATIONS, JUNE - 2011
ENGINEERING DRAWING

Time: 3hours

Max.Marks:75

Answer any FIVE questions
All questions carry equal marks

- 1.a) The asymptote of a hyperbola are inclined at 50° to a horizontal line. A point P on the curve is 60 mm and 35 mm away from the two asymptotes, measured parallel to them. Construct a hyperbola passing through the point P and locate the directrix and focus.
- b) Construct a diagonal scale to read kilometers, hectameters and decameters and long enough to measure up to 6 kilometers. When a line of length 1 cm on the map represents a distance of 0.5 kilometers, calculate the RF and indicate a distance of 2.45 kilometers on the scale. [15]
2. A line PQ, 64 mm long has one of its extremities 20 mm in front VP and the other 50 mm above HP. The line is inclined at 40° to HP and 25° to VP. Draw its top and front views. [15]
3. A triangular prism of base side 40 mm and height 50 mm has its axis inclined at 40° to VP and has a base edge on VP, inclined at 50° to HP. Draw its projections. [15]
4. A hexagonal prism, base 26 mm side and axis 80 mm long, is lying on one of its rectangular faces upon HP, with its axis inclined at 20° to VP. It is cut by a plane perpendicular to HP, inclined at 45° to VP and passing through the midpoint of the prism as well as making 65° with the axis. Draw the sectional front view, top view and true shape of the section. [15]
5. A right circular vertical cylinder of 44 mm diameter and height of 60 mm rotates uniformly. A plotter pen tip moves vertically at uniform speed on the surface of the cylinder from the bottom to the top, so it moves 60 mm while the cylinder completes one rotation. Draw the line marked on the cylinder in the front view and measure the true length of it. [15]
6. Draw the isometric view of a cylinder of 60 mm height and diameter 44 mm, lying on one of its generators on HP with the axis perpendicular to VP. Select the origin of the isometric axes suitable to get the front view on the right isometric plane. [15]

7. Draw the following views of the object is as shown in figure 1. All dimensions are in mm. [15]

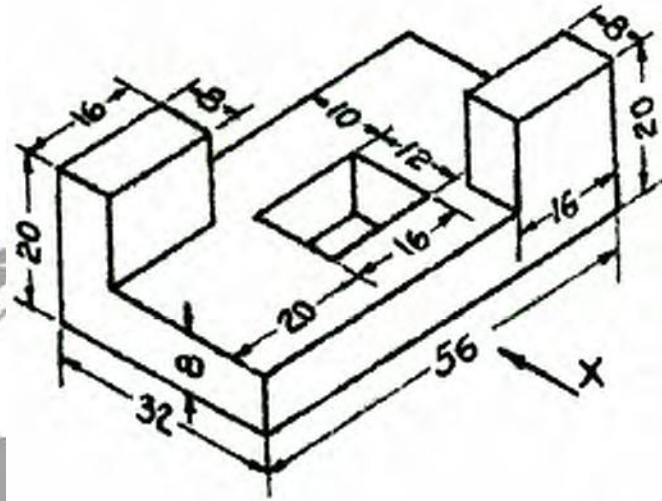


Fig: 1

8. A pentagonal prism, side of base 25 mm and axis 60 mm long, lies with one of its rectangular faces on the ground plane such that a pentagonal face is touching the picture plane. The station point is 20 mm in front of the picture plane, 55 mm above the ground plane and lies in a central plane which is at 80 mm to the right of the centre of the prism. Draw the prospective view. [15]

ENGINEERSHUB
APPROVED

I B.TECH – EXAMINATIONS, JUNE - 2011
ENGINEERING DRAWING

Time: 3hours

Max.Marks:75

Answer any FIVE questions
All questions carry equal marks

- 1.a) When a cricket ball was thrown, it reached a maximum height of 9 m and fell on the ground at a distance of 25m from the point of projection. Draw the path of the ball, calculate the angle of projection and name the curve.
- b) A rectangular plot of land area 2.0 hectares is represented on a map by a similar rectangle of 8 sq. cm. Calculate the RF of the scale of the map. The scale should be long enough to measure up to 600 meters. Show a length of 459m. [15]
2. The projections of a line AB ha 35° inclination in top view and 40° inclination in the front view with an elevation length of 60 mm. If the end A is 10 mm below HP and B is 12 mm behind VP, draw the projections and locate the traces keeping the line in the third quadrant. [15]
3. A rectangular prism of base 40 mm x 30 mm and height 70 mm rests with its longer edge of the base on the VP. If the axis of the prism is inclined to VP at 30° and the front view of the axis is inclined to the xy line at 45° , draw the top and front views. [15]
4. A hexagonal pyramid, base 32 mm side and axis 70 mm long, rests upon its base on the ground with two of its base edges parallel to VP. It is cut by a combination of section planes, perpendicular to VP and parallel to Hp for the left half and then inclined upwards to an angle of 45° for the right half. If the horizontal part of the cutting plane is located at 20 mm height from the base, draw the sectional top views of the pyramid. [15]
5. Draw the development of the lateral surface of the truncated right circular cylinder of diameter 44 mm and height 70 mm. The tube is placed on HP. A section plane, passing through the geometrical centre of the top face of the tube, perpendicular to VP and inclined at 45° to HP, cuts off the top portion of the tube. A similar section plane making an angle of 30° to HP in the opposite direction, cuts the axis at a height of 14 mm from the base. [15]

6. A cylinder of diameter 50 mm base and 70 mm height is resting upon its base on HP. A section plane of 60° inclination to Hp cuts the axis of the cylinder at a height of 55 mm from the base. Draw the isometric view of the cylinder showing the sectioned surface. [15]
7. Draw the orthographic projections for the pictorial view shown in figure 1. All dimensions are in mm. [15]

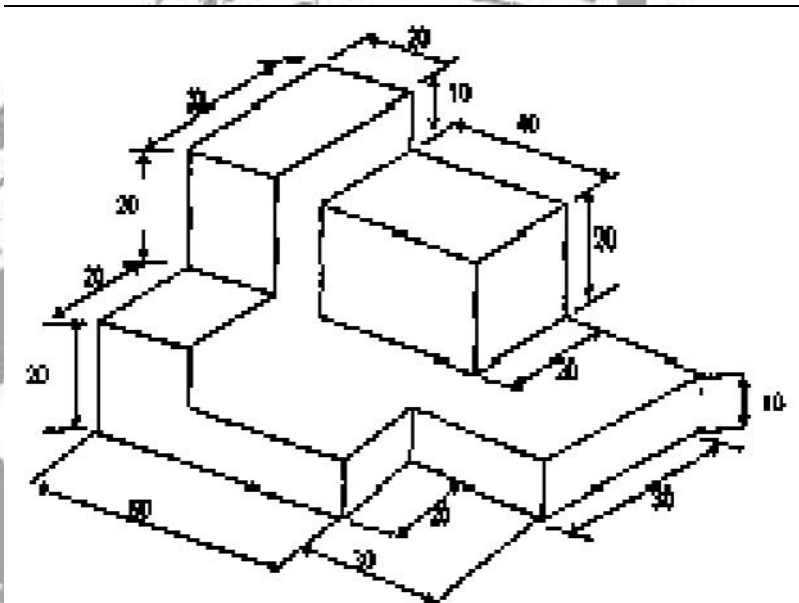


Fig:1

8. Draw the perspective view of a square pyramid of base 10 cm side and height of the apex 12 cm. The nearest edge of the base is parallel to 3 cm behind the picture plane. The station point is situated at a distance of 30 cm from the picture plane, 6 mm above the ground plane and 20 cm to the right of the apex. [15]

I B.TECH – EXAMINATIONS, JUNE - 2011
ENGINEERING DRAWING

Time: 3hours

Max.Marks:75

Answer any FIVE questions
All questions carry equal marks

-
- 1.a) The directrices of an ellipse are 240 mm apart and the major axis is 190 mm long. Draw the ellipse and calculate the eccentricity of the ellipse.
 - b) An area 144 sq cm on a map represents an area of 36 sq km on the field. Find the RF of the scale for this map and draw a diagonal scale to show kilometers, hectameters and decameters and to measure up to 10 kilometers. Indicate on the scale a distance of 7 kilometers, 5 hectameters and 6 decameters. [15]
 2. Line PQ has 72 mm length in the front view and 66 mm length in the top view. The end P is 48 mm below HP and 40 mm behind VP, while the end Q is 12 mm below HP. Draw the projection of the line, locate the traces and determine the true length and inclinations of the line with the reference planes. [15]
 3. A square pyramid with side of base 40 mm and height 80 mm is suspended freely from a point on a slant edge at distance of 20 mm from its apex. The top view of the axis of the pyramid is inclined at 30° to the xy line. Draw the projections. [15]
 4. A cylinder is resting on its base upon Hp. It is cut by a plane inclined at 60° to HP, cutting the axis at a point 20 mm from the top. If the diameter of the cylinder is 50 mm and length is 70 mm, draw the projections of the sectioned cylinder and the true shape of the section. [15]
 5. Draw the development of the lateral surface of a right regular hexagonal prism of 24 mm base edge and 56 mm height. An ant moves on its surface from a corner on the base to the diametrically opposite corner on the top face, by the shortest route along the front side. Sketch the path of elevation.
 6. A pentagonal pyramid of height 60 mm and side 28 mm is resting on HP, keeping its axis vertical and one edge of the base parallel to VP. Draw isometric view of the solid. [15]

7. Draw all the orthographic projections for the isometric view shown in figure1. All dimensions are in mm. [15]

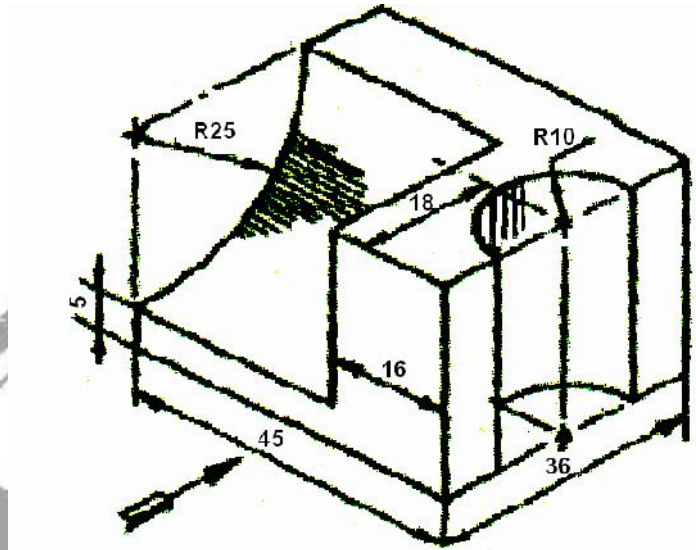


Fig: 1

8. A hexagonal plane of 25 mm stands vertically on the ground plane and inclined at 40° to the picture plane. The corner, nearest to picture plane is 25 mm behind it. The station point is 35 mm in front of the picture plane, 45 mm above the ground plane and lies in central plane which passes through the centre of the plane. Draw the perspective view of the plane. [15]

APPROVED

I B.TECH – EXAMINATIONS, JUNE - 2011
ENGINEERING DRAWING

Time: 3hours

Max.Marks:75

Answer any FIVE questions
All questions carry equal marks

- 1.a) Construct a conic when the distance between its focus and directrix is equal to 40 mm and its eccentricity is one. Draw a tangent a point on the upper half of the curve located 60 mm from the focus.
- b) Draw the vernier of RF 1:2:4 to show decimeters, centimeters and millimeters and long enough to read up to 6 decimeters. Mark a distance of 3.69 decimeters on the scale. [15]
2. Line CD is in the second quadrant and has 25° inclination with HP, while the front view has 30° inclination with xy line and 60 mm length. If the end C is 12 mm above HP and the end D is 60 mm behind VP, draw its projections. [15]
3. A right circular cone of base diameter 60 mm and height 80 mm is so placed that diameter KJ of the base is inclined at 50° with HP and the other diameter LM of the base is parallel to both HP and VP. Draw the top and front views of the cone. The diameters KJ and LM are perpendicular to each other. [15]
4. A square prism of 42 mm side of base and 64 mm long rests on one of its long edges on HP, so that a rectangular face makes 30° with HP and is perpendicular to VP. It is cut by a section plane parallel to HP and 6 mm above the axis. Draw the front view and sectional top view. [15]
5. A right circular cone, 70 mm base and 70 mm height, rests on its base on the ground plane. A section plane perpendicular to VP and inclined at 30° to HP cuts the cone, bisection its axis. Draw the development of the lateral surface of the cone. [15]
6. Draw the isometric view of a hexagonal prism of side of base 26 mm and height 64 mm, resting upon its base on HP and a rectangular face is parallel to VP. [15]

7. Draw the orthographic projections for the pictorial view shown in figure 1. All dimensions are in mm. [15]

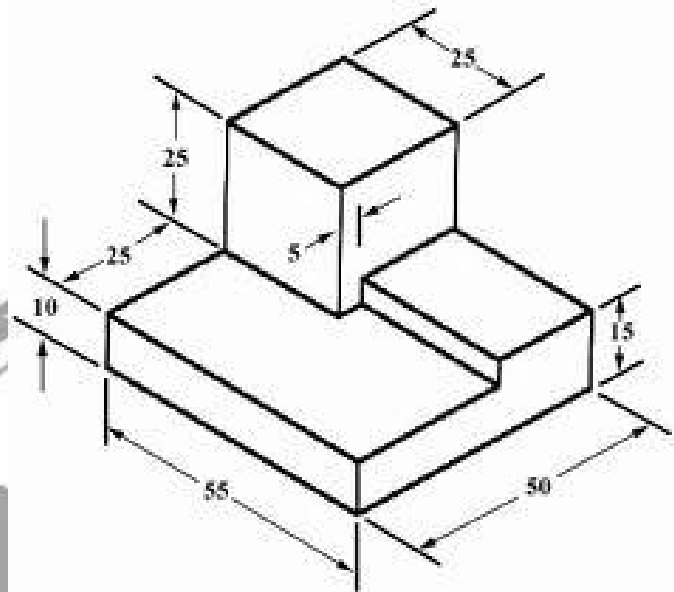


Fig:1

8. A model of steps has three steps of 10 mm tread and 10 mm rise. The length of the steps is 60 mm. The model is placed with the vertical edge of the first step touching the PP and its longer edge inclined at 30° to PP. The station point is 70 mm in front of PP, 55 mm above the ground plane and lies in a central plane which is at 30 mm to the right of the vertical edge touching the PP. Draw the perspective view. [15]
