Code.No: 09A11291 | R09 | SET-1

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 actual length of 500m is represented by a line of 15 cm on a drawing. Construct a vernier scale to read upto 600 m. Mark on the scale a length of 549 m.

b) Two fixed points A and B are 100mm apart. Trace the complete path of a point P moving in the same plane as that of A and B in such a way that, the sum of its distances from A and B is always the same and equal to 125 mm. [15]

2.a) A line CD 60mm long has its end 'C' in both H.P and V.P. It is inclined at 30^0 to H.P and 45^0 to V.P. Draw the projections.

b) A regular pentagon of 30mm side has one side on the ground and its plane is inclined at 45^0 to H.P and perpendicular to V.P. Draw the projections [15]

3. Draw the projections of a pentagonal prism, base 25 mm side and axis 50 mm long resting on one of its rectangular faces on H.P., with the axis inclined at 45 degrees to V.P. [15]

4. A hexagonal prism, side of base 35mm and height 75mm is resting on one of its corners on H.P. with a longer edge containing that corner inclined at 60 degrees to the H.P. and rectangular face parallel to the V.P.A horizontal section plane cuts the prism into two halves. Draw the sectional top view of the cut prism and front view. [15]

5. A vertical cylinder of 60mm diameter and height 110mm is penetrated by a horizontal cylinder of same size and same length. The axis of the horizontal cylinder is parallel to V.P and is 10mm away from the axis of vertical cylinder. Draw the projections showing the curves of intersection. [15]

6. A cylindrical block of base,60 mm diameter and height 90 mm, standing on the H.P. with its axis perpendicular to the H.P. Draw its isometric view. [15]

7. Draw the front view, top view, & side view for the part shown in figure 1. All dimensions are in mm. [15]

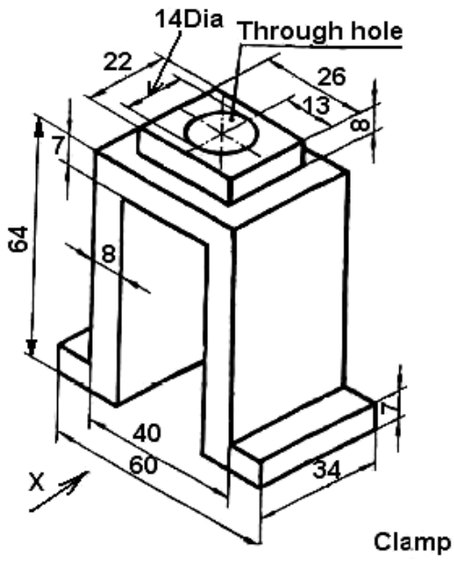


Fig: 1

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

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Code.No: 09A11291 | R09 | SET-2

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 major axis of an ellipse is 100mm and the foci are at a distance of 15 mm from its ends. Find the minor axis. Draw the ellipse by arc of circles method.

b) A coin of 40mm diameter rolls over a horizontal table without slipping. A point on the circumference of the coin in contact with the table surface in the beginning and after one complete revolution. Draw the path traced by the point. Draw a tangent and normal at a point 25 mm from the table. [15]

2.a) A point C is 40mm below H.P and 20mm behind V.P, another points D and E are 60mm above H.P and in front of V.P, 90 mm below H.P and 45mm in front of V.P respectively draw the projections of all points on same reference line.

b) A plate having shape of an isosceles triangle has base 50 mm long and altitude 70 mm. It is so placed that in the front view it is seen as an equilateral triangle of 50 mm sides one side inclined at 450 to xy. Draw its top view. [15]

3. The mid point of a straight line AB is 60mm above HP and 50mm in front of V.P. The line measures 80mm long and inclined at an angle of 30degrees to H.P and 45 degrees to V.P. Draw its projections. [15]

4. Draw the projections of a regular hexagon of 25mm side, having one of its sides in the H.P. and inclined at 60 degrees to the V.P., and its surface making an angle of 45 degrees with H.P. [15]

5. A square prism having a base with a 40mm side and a 60 mm long axis rests on its base on H.P. such that one of the vertical faces makes an angle of 30 degrees with V.P. A section plane perpendicular to the V.P. inclined at 45 degrees to the H.P. and passing through the axis at a point 20 mm from its top end cuts the prism. Draw its front view, sectional top view. [15]

6. A vertical cylinder of 80 mm diameter and 120mm height is completely penetrated by another cylinder of 60 mm diameter, and 120 mm height, their axis bisecting each other at right angles .Draw their projections showing curves of penetration assuming the axis of penetrating cylinder to be parallel to V.P. Draw the front view and top view. [15]

7. Draw an isometric view of a hexagonal prism having a base with 25 mm side and 65 mm long axis which is lying on its face in the H.P.with axis parallel to both H.P. and V.P. [15]

8. Draw the front view, top view and side view for the part shown in figure1. All dimensions are in mm. [15]

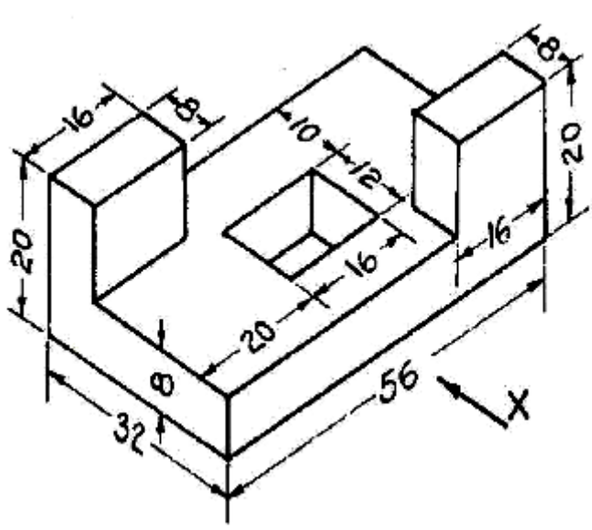


Fig: 1

Code.No: 09A11291 | R09 | SET-3

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

Time: 3hours **Max.Marks:75**

Answer any FIVE questions
All questions carry equal marks

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1.a) A rectangular field of 0.54 hectare is represented on a map by a rectangle of 3cm×2cm .Draw the diagonal scale to read up to 1 meter and long enough to measure up to 600m.Mark a length of 425m.

b) Draw a parabola when the distance between focus and directrix is 50mm. Draw a tangent and normal at a point distant 70mm from the directrix. [15]

2. Draw an epi cycloid generated by a rolling circle of 60 mm diameter for one complete revolution. The radius of directing circle is 100mm.Draw a tangent and a normal to the curve at 150mm from the center of the directing circle. [15]

3. The end P of a straight line PQ is 20 mm above the H.P. and 30 mm in front of V.P. The end Q is 15 mm below the H.P. and 45mm behind the V.P. If the end projectors are 50 mm apart, Draw the projection of PQ and determine the true length, traces and inclination with the reference planes. [15]

4. A pentagonal prism having base with a 30 mm side and a 75 mm long axis, has one of its rectangular faces on H.P. and the axis is inclined at 60 degrees to the V.P. Draw its projections. [15]

5. A triangular prism with a 50 mm side and a 70 mm long axis, lies on the H.P. on one of its rectangular faces with its axis inclined at 30 degrees to the V.P. it is cut by a horizontal section plane at a distance of 5 mm from the axis. Draw its front view and sectional top view. [15]

6. Two views of a casting are shown in figure 1. Draw the isometric projection of the casting (all dimensions are in mm). [15]

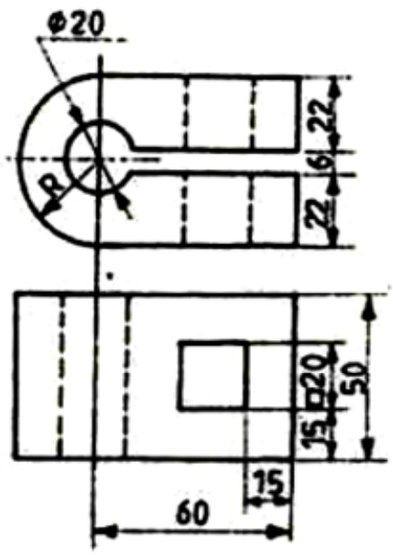


Fig: 1

7. A straight line AB 4 cm long is Parallel to and 1.5 cm above the ground plane and inclined at 30 degrees to the picture plane. The end A is 2 cm behind the picture plane. The station point is 4 cm above the ground plane 5 cm in front of picture plane and lies in a central plane which passes through the mid point of AB. Draw its perspective view. [15]

8. Draw the front view, top view and side view for the picture shown in figure 2. All dimensions are in mm. [15]

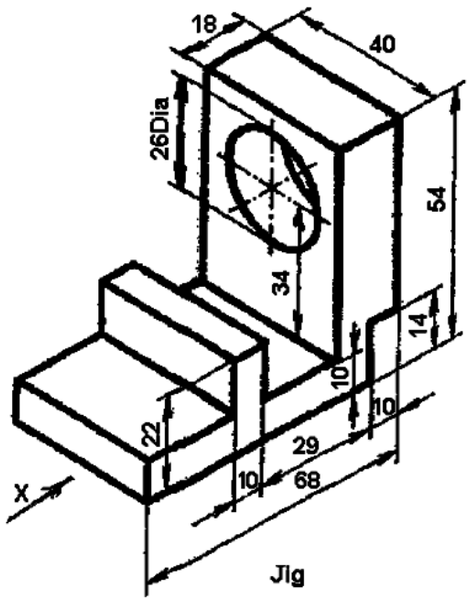


Fig: 2

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Code.No: 09A11291 | R09 | SET-4

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 actual length of 300m is represented by a line of 10cm on a drawing. Draw a vernier scale to read up to 500m. Mark on it a length of 367m.
b) Draw an ellipse in a parallelogram having sides 15cm and 9 cm long and an included angle of 60 degrees. [15]

2.a) The vertex of a hyperbola is 5cms from directrix. Draw the curve if the eccentric's is 3/2. Draw the normal and tangent at a point 50mm from axis.
b) A circle of 30mm diameter rolls on the concave side of generating circle of radius 30mm. Draw the path traced by a point on the generating circle for one complete revolution. [15]

3.a) The front view of line inclined at 30^0 to V.P is 65mm long. Draw the projections of a line, when it is parallel to and 40mm above H.P. and one end being 20mm in front of V.P.
b) A thin circular plate of 40mm diameter having its plane vertical and inclined at 40^0 to V.P. Its center is 30mm above H.P. and 35mm in front of V.P. Draw the projections. [15]

4. Draw the projections of a hexagonal pyramid of side of base 30mm and axis 60mm long resting on one of its base edges in H.P with its axis inclined at 30^0 to H.P. and the top view of axis is 45^0 to V.P. [15]

5. A vertical cylinder of 50mm diameter and height 120mm is penetrated by a horizontal cylinder of same size and same length. The axis of the horizontal cylinder is parallel to V.P and is 7mm away from the axis of vertical cylinder. Draw the projections showing the curves of intersection. [15]

6. Three views of a machine part are shown in figure 1. Draw the isometric view of the part (All dimensions are in mm). [15]

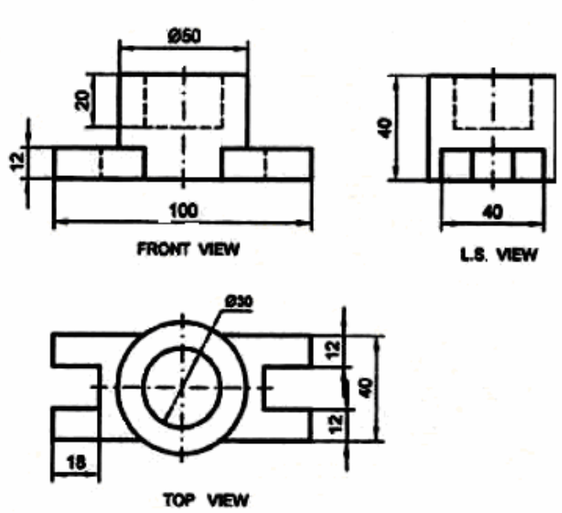


Fig: 1

7. A circular lamina of 50 mm diameter lies on the ground plane and touches the picture plane. The station point is 60 mm infront of picture plane and 50 mm above the GP. The centre plane passes through the centre of the circle. Draw the perspective view of the circle. [15]

8. Draw Front View, top view and side view for the part shown in figure 2. All dimensions are in mm. [15]

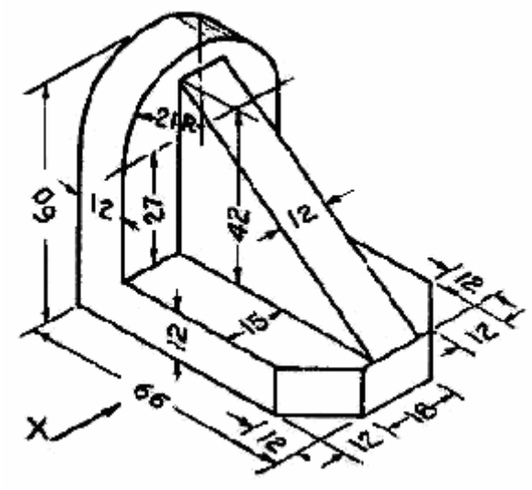


Fig: 2

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