Code.No: 09A10191 | 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
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1. A train is running at a speed of 40 km/hr. Construct a plane scale to read up to a km and a minute. The scale should measure up to 50 km. The RF of the scale is 1:25000. On the scale show the distance covered by the train in 39 minutes. [15]

2. A line EF 85 long has its ends 25 mm above HP and 20 mm in front of V.P. The top and front views of the line have lengths of 55 mm and 70 mm respectively. Draw the projections of the line and find its true inclinations with the V.P and H.P. [15]

3. A regular hexagonal lamina with its edge 50 mm has its plane inclined at 45^o to H.P and lying with one of its edges in H.P. The plane of one of its diagonals is inclined at 45^o to XY. The corner nearest to VP is 15mm in front of it. Draw its projections. [15]

4. A pentagonal pyramid base 30 mm side and axis 60 mm long lying on one of its triangular faces on the HP with the axis parallel to VP. A vertical section plane whose H.T bisects the top view of the axis and makes an angle of 30 degrees with reference line cuts the pyramid removing its top part. Draw the top view, sectional front view and true shape of the section. [15]

5. A cylinder of 75 mm diameter standing on its base on HP is completely penetrated by another cylinder of 55 mm diameter with their axes intersecting at right angle.Draw the projections showing the lines of intersection, assuming that the axis of the smaller cylinder is parallel to VP. [15]

6. Draw the isometric view for the given orthogonal views as shown in figure 1. All dimensions are in mm. [15]

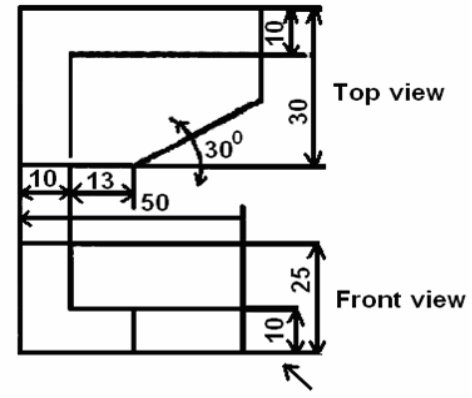


Fig: 1

7. Draw the elevation, plan and side view of the picture shown in the figure 2. All dimensions are in mm. [15]

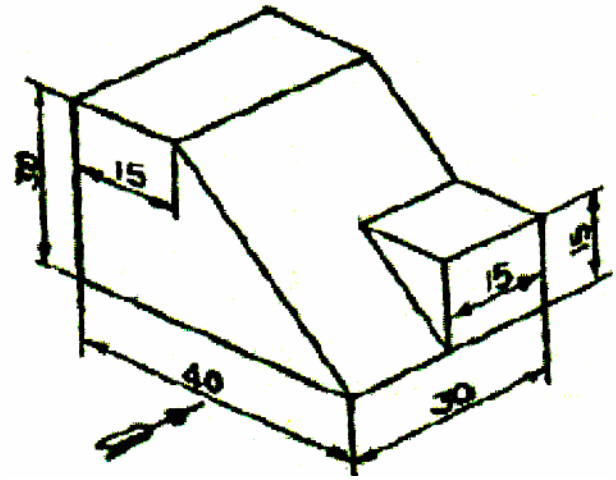


Fig: 2

8 A model of steps has three steps of 10 mm tread and 10 mm rise. The length of the steps is 60mm. The model is placed with the vertical edge of the first step touching the PP and its longer edge inclined at 30^{o} to PP. The station point is 70 mm in front of PP, 55mm 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]

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Code.No: 09A10191 | 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

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1 A circus man rides on a motor cycle, inside a globe of 4 m diameter. The motor cycle wheel is 1 m in diameter. Draw the locus of a point on the circumference of the wheel of motor cycle for its one complete turn on the maximum circular path and name the curve. [15]

2. The front view of a line AB 80 mm long measures 55 mm while its top view measures 70 mm. End A is in both HP and VP. Draw the projections of the line and find its inclinations with the reference planes. Also locate the traces. [15]

3. A hexagonal pyramid base 25 mm side and axis 55 mm long has one of its slant edges on the ground. A plane containing that edge and the axis is perpendicular to the H.P and inclined at 45^0 to the V.P. Draw its projections when the apex is nearer the V.P than the base. [15]

4. A vertical hexagonal prism of 25 mm side of base and axis 60 mm has one of its rectangular faces parallel to VP. A circular hole of 40 mm diameter is drilled through the prism such that the axis of the hole bisects the axis of the prism at right angle and is perpendicular to VP. Draw the development of the lateral surface of the prism showing the true shape of the hole in it. [15]

5. A vertical cone of 80 mm diameter and axis 100 long is penetrated by horizontal cylinder of 60 mm diameter and 90 mm long such that its axis is 15 mm behind the axis of the cone at height of 40 mm above its base. Show the lines of intersection when axes of both solids are parallel to V.P. [15]

6. Draw the isometric view of the object whose orthographic projections are given in figure 1. All dimensions are in mm. [15]

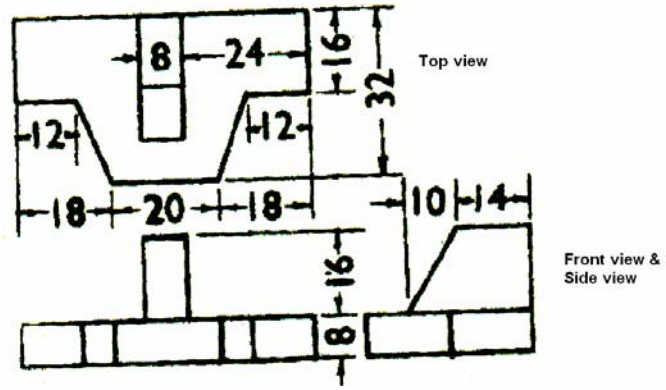


Fig: 1

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

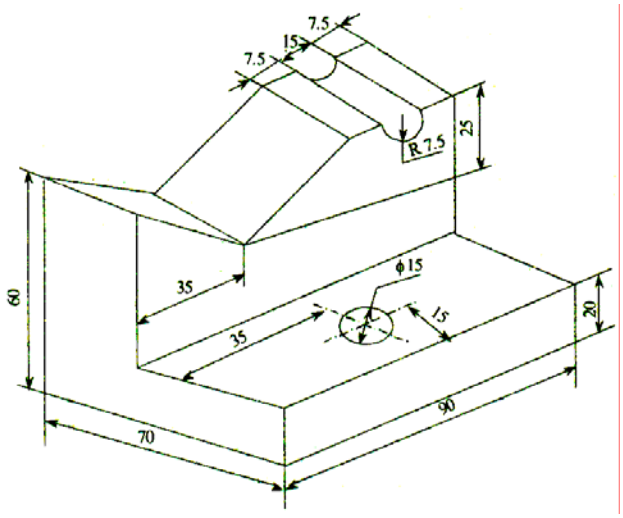


Fig: 2

8 A cube of edge 30 rests with one of its faces on the ground plane such that a vertical edge touches the PP. The vertical faces of the cube are equally inclined to PP and behind it. A station point is 40 mm in front of the PP, 50 mm above the ground plane and lies in a central plane 15 mm to the right of the axis of the cube. Draw the perspective view. [15]

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Code.No: 09A10191 | 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 point Pis 30mm and 50mm respectively from two straight lines which are at right angles to each other. Draw a rectangular hyperbola from p with in 10mm distance from each line.

b) Draw a vernier scale of R.F=5 to read 1/5cm and 1/25cm and to measure upto 5cm.Mark on the scale distances of 2.12cm. [15]

2. The front view of a line AB measures 65mm and makes an angle of 45 with xy. A is in the H.P and the V.T of a line is15 mm below the H.P. The line is inclined at 30 to the V.P. Draw the projections of AB and find its true length and inclination with the H.P. Also locate its H.T. [15]

3. A pentagonal pyramid, base 25mm side and axis 50mm long has one of its triangular faces in the V.P. and the edge of the base contained by that face makes an angle of 30 with the H.P. Draw its projections. [15]

4. A square pyramid, base 50mm side and axis 75mm long, is resting on the H.P. on one of its triangular faces, the top view of the axis making an angle30 with the V.P. It is cut by a horizontal section plane, the V.T. of which intersects the axis at a point 6mm from the base. Draw the front view, sectional top view and the development of the sectioned pyramid. [15]

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

6. Draw the isometric view of the given figure 1. All dimensions are in mm. [15]

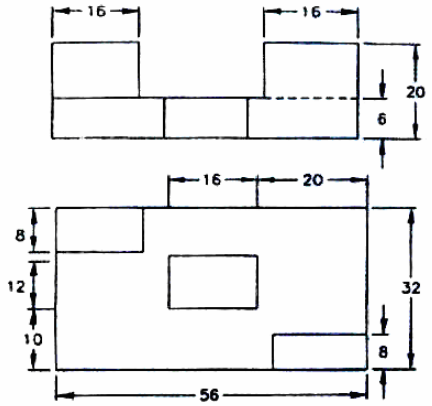


Fig: 1

7. Draw the following figure 2. All dimensions are in mm.

i) front view ii) top view iii) side view. [15]

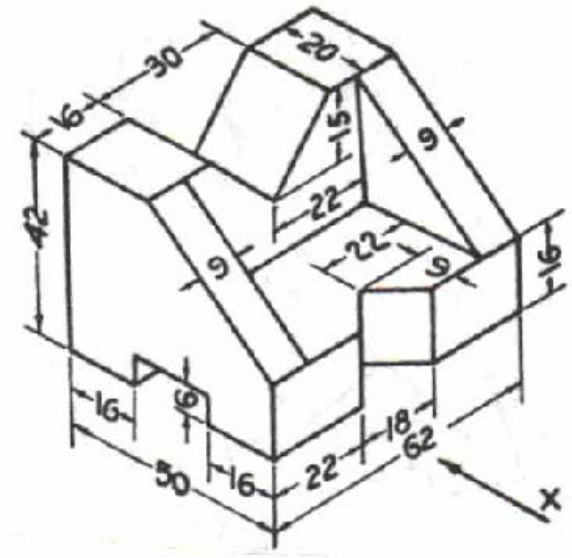


Fig: 2

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

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Code.No: 09A10191 | 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

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1.a) A ball thrown up in the air maches a maximum height of 45 meters and travels a horizontal distance of 75 meters. Trace the path of the ball assuming it to be parabolic.

b) Draw in volute of a pentagon side 30 mm. Draw its tangent and normal fit at 70 mm of the centre of pentagon. [15]

2.a) Two points A and B are in the H.P. the point A is 30 mm infront of the VP. While B is behind the V.P. The distance between their projections is 75 mm and line joining their top views makes an angle of 45^0 with xy. Find the distance of the point B from the V.P.

b) The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. Its one end A is in the H.P and 12 mm infront of the VP. Draw the projections of AB and determine its inclinations with the H.P and the V.P. [15]

3.a) A regular pentagon lamina of 30 mm side surface is inclined at 30^0 to U.P and side on which it rests of VP makes at angle of 45^0 to HP. Draw its projection by auxiliary plane method. [15]

4. A hexagonal prism side of base 35 mm and height 75 mm is resting on one of its corners on the H.P with a longer edge containing that corner inclined at 60^0 to the H.P and a rectangular face parallel to the V.P. A horizontal section plane cuts the prism in two equal halves.
   i) Draw the front view and sectional top view of the cut prism
   ii) Draw another top view on the auxiliary inclined plane which makes an angle of 45^0 with the H.P. [15]

5. A vertical square prism base 50 mm side is completely penetrated by a horizontal square prism, base 35 mm side so that their axis are 6 mm apart the axis of the horizontal prism is parallel to the V.P while the faces of both prisms are equally inclined to the V.P. Draw the projections of the prisms showing lines of intersection. [15]

6. Draw the isometric view of the object whose orthographic projections as shown in figure 1. All dimensions are in mm. [15]

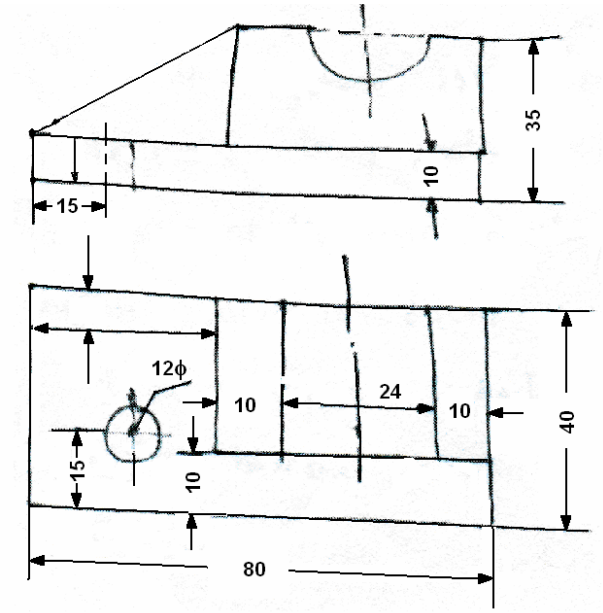


fig: 1

7. Draw the following as shown in figure 2:
i) Front view ii) Side view iii) Top view. [15]

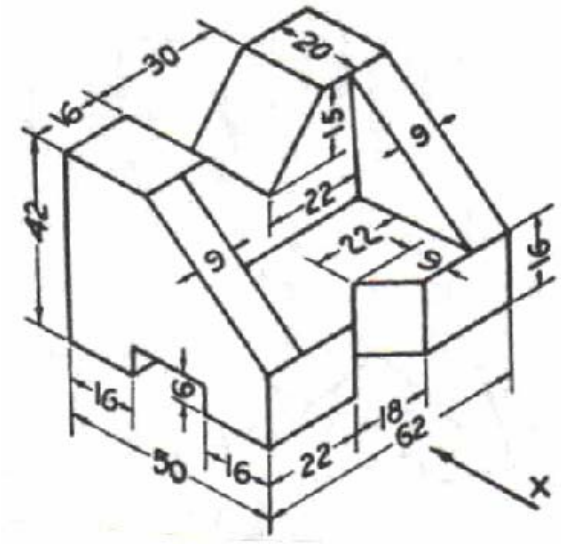


Fig: 2

8. Draw the perspective view of a pentagonal prism lying on the ground plane on one of its rectangle faces, the axis being inclined at 38 the picture plane and a corner of the base touching the picture plane the station point is 6.5 cm in front of the picture planes and lies in a central plane which bisects the axis. The horizon is at the level of the top edge of the prism. [15]

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