Code No: Z0223/R07 **Set No. 1**

I B.Tech Supplementary Examinations, December 2012
ENGINEERING DRAWING
(Common to Electrical & Electronic Engineering,Electrical & Communication Engineering, Bio-Technology and Electronics & Computer Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) A fountain jet discharges water from ground level at an inclination of 50^0 to the ground. The jet travels a horizontal distance of 9cm from the point of discharge and falls on the ground. Trace the path of the jet.
   (b) The distance between two fixed points is 90mm. A point P moves such that the difference of its distance from the two fixed points is always equal to 60mm. Draw the loci of P. [8+8]

2. Construct a hypocycloid, rolling circle 50mm diameter and directing circle 175mm diameter. Draw a tangent to it at a point 50mm from the center of the directing circle. [16]

3. (a) Draw the projections of the following points on the same ground line, keeping the Projectors 25mm apart.
      i. A, in the H.P. and 20 mm behind the V.P.
      ii. B, 40mm above the H.P. and 25mm in front of the V.P.
   (b) State the quadrants with the help of drawing, in which the following points are situated
      i. A point P; its top view is 40mm above xy; the front view 20 mm below the top view.
      ii. A point Q; its projections coincide with each other 40mm below x y.[8+8]

4. A line PQ, 100mm long, is inclined at 45^0 to the H.P. and at 30^0 to the V.P. Its end P is in the second quadrant and Q is in the fourth quadrant. A point R on PQ, 40mm from P is in both the planes. Draw the projections of PQ. [16]

5. (a) A regular pentagon of 25mm side has one side on the ground. Its plane is inclined at 45^0 to the H.P. and perpendicular to the V.P. Draw its projections.
   (b) Draw the projections of a circle of 5cm diameter, having its plane vertical and inclined at 30^0 to the V.P. Its centre is 3cm above the H.P. and 2cm in front of the V.P. [8+8]

6. Draw the projections of a pentagonal prism, base 25mm side and axis 50mm long, resting on one of its rectangular faces on the H.P., with the axis inclined at 45^0 to the V.P. [16]

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7. A hexagonal prism having the side of base 30mm and height of 70 mm is resting on one of the corner of the base and its axis inclined to 30^0 to the H.P. Draw its projections and also prepare the isometric view of the prism in the above stated condition. [16]

8. Draw the following views of the block shown in figure 8. All dimensions are in mm.

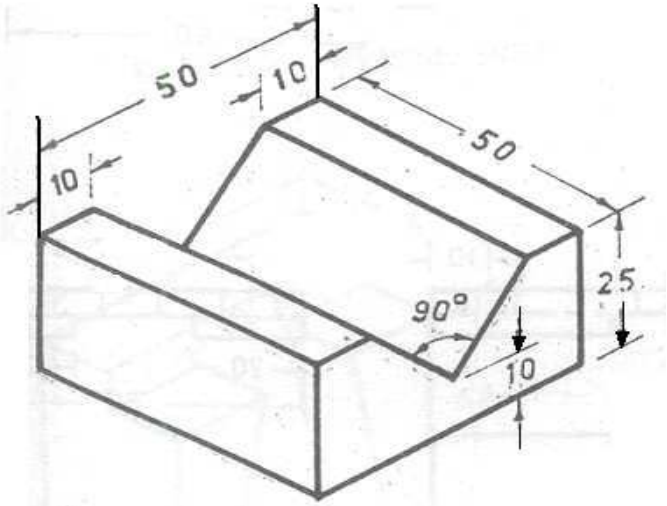

Figure 8

(a) Front View.
(b) Top view
(c) Both side views. [16]

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Code No: Z0223/R07 **Set No. 2**

I B.Tech Supplementary Examinations, December 2012
ENGINEERING DRAWING
(Common to Electrical & Electronic Engineering,Electrical & Communication Engineering, Bio-Technology and Electronics & Computer Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. A fixed point is 75mm from a fixed straight line. Draw the locus of a point P moving such a way that its distance from the fixed straight line is
   (a) twice its distance from the fixed point
   (b) equal to its distance from the fixed point. Name the curves. [16]

2. Draw an epi- cycloid of a circle of 40mm diameter, which rolls outside on another circle of 150mm diameter for one revolution clockwise. Draw a tangent and a normal to it at a point 90mm from the center of the directing circle. [16]

3. (a) Draw the projections of the following points on the same ground line, keeping the Projectors 25mm apart.
      i. A, in the H.P. and 20 mm behind the V.P.
      ii. B, 40mm above the H.P. and 25mm in front of the V.P.
   (b) State the quadrants with the help of drawing, in which the following points are situated
      i. A point P; its top view is 40mm above xy; the front view 20 mm below the top view.
      ii. A point Q; its projections coincide with each other 40mm below x y.[8+8]

4. A line of 100mm long, makes an angle of 35^0 with H.P. and 45^0 with V.P. Its mid point is 20mm above H.P. and 15mm in front of V.P. Draw the projections of the line. [16]

5. A square lamina ABCD of 30mm side, rests on one of its corners on the ground. Its plane is inclined at 35^0 with H.P. and diagonal DB inclined at 65^0 to V.P. and parallel to H.P. Draw its projections. [16]

6. Draw the projections of a cube of 25mm long edges resting on the H.P. on one of its corners with a solid diagonal perpendicular to the V.P. [16]

7. Draw the isometric view of a cylinder of base 50 mm diameter and 70mm height when it rests with its base on H.P.(use four-centre method). [16]

Code No: Z0223/R07 **Set No. 2**

8. Draw the following views of the block shown in figure 8. All dimensions are in mm.

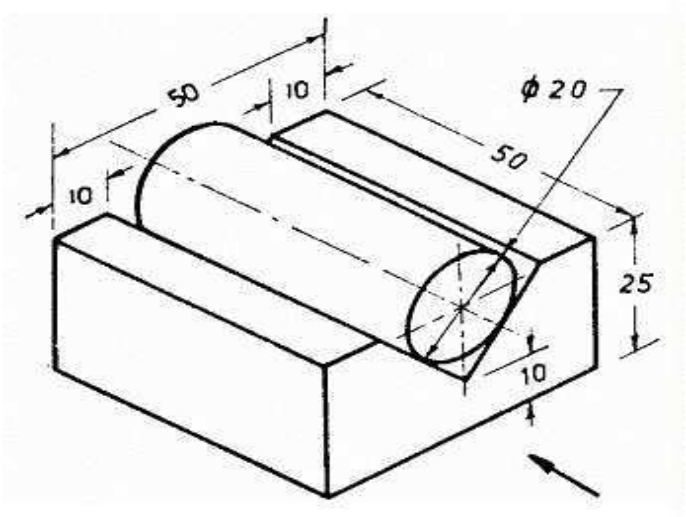

Figure 8

(a) Front View.
(b) Top view
(c) Both side views. [16]

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Code No: Z0223/R07 **Set No. 3**

I B.Tech Supplementary Examinations, December 2012
ENGINEERING DRAWING
(Common to Electrical & Electronic Engineering,Electrical & Communication Engineering, Bio-Technology and Electronics & Computer Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) A fountain jet discharges water from ground level at an inclination of 50^0 to the ground. The jet travels a horizontal distance of 9cm from the point of discharge and falls on the ground. Trace the path of the jet.
   (b) The distance between two fixed points is 90mm. A point P moves such that the difference of its distance from the two fixed points is always equal to 60mm. Draw the loci of P. [8+8]

2. A coin of 40mm diameter rolls over horizontal table without slipping. A point on the circumference of the coin is in contact with the table surface in the beginning and after one complete revolution. Draw and name the curve. Draw a tangent and normal at any point on the curve. [16]

3. Draw the projections of the following points on the same ground line, keeping the Projectors 20mm apart.
   (a) Point C, in the V.P. and 40mm above the H.P.
   (b) Point D, 25mm below the H.P. and 25mm behind the V.P.
   (c) Point E,15mm above the H.P. and 50mm behind the V.P.
   (d) Point F, 40mm below the H.P. and 25mm infront of the V.P. [4×4]

4. The mid point of a straight line AB is 60mm above H.P. and 50mm in front of V.P. The line measures 80mm long and inclined at 30^0 to H.P. and 45^0 to V.P. Draw its projections. [16]

5. A circular plane of 60mm diameter, rests on V.P. on a point A on its circumference. Its plane is inclined at 45^0 to V.P. Draw the projections of the plane when
   (a) The front view of the diameter AB makes 30^0 with H.P. and
   (b) The diameter AB itself makes 30^0 with H.P. [16]

6. A regular pentagonal pyramid, base 30mm side and height 80mm rests on one edge of its base on the ground so that the highest point in the base is 30 mm above the ground. Draw its projection when the axis is parallel to the V.P. [16]

7. Draw the isometric view of the ribbed angle plate, Shown in figure 7 All dimensions are in mm. [16]

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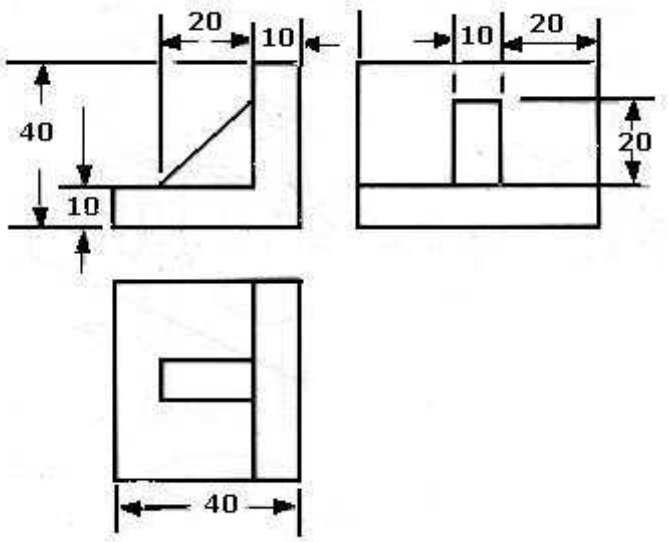

Figure 7

8. Draw the front view, top view and left side view of the object shown in figure 8 (All dimensions are in mm). [16]

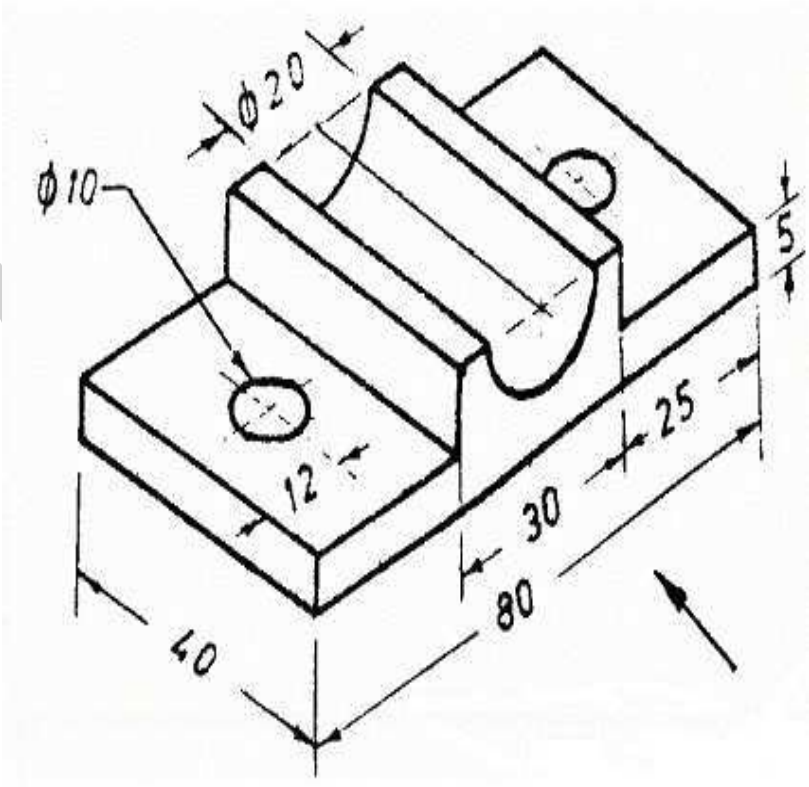

Figure 8

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Code No: Z0223/R07 **Set No. 4**

I B.Tech Supplementary Examinations, December 2012
ENGINEERING DRAWING
(Common to Electrical & Electronic Engineering,Electrical & Communication Engineering, Bio-Technology and Electronics & Computer Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Two straight lines OA and OB make an angle of 75^0 between them. P is a point 40mm from OA and 50mm from OB. Draw a hyperbola through P, with OA and OB as asympotes, marking at least ten points. [16]

2. A circle of 50mm diameter, rolls on a horizontal line for half a revolution clock wise and then on a line inclined at 60^0 to the horizontal for another half clockwise. Draw the curve traced by a point P on the circumference of the circle, taking the top most point on the rolling circle as the initial position of the generating point. [16]

3. (a) Two points A and B are on H.P; the points A being 30mm in front of V.P., while B is 45mm behind V.P. The line joining their top views makes an angle of 45^0 with xy. Find the horizontal distance between two points.
   (b) Find the distance between two points A and B when B is 40mm in front of V.P. and 25mm above H.P. The point A is 25mm behind the V.P. and 40mm below H.P. The distance between projectors measured along xy line being 40mm. [8+8]

4. Draw the projections of a 70mm long straight line, in the following positions:
   (a) Parallel to and 40mm in front of the V.P and in the H.P.
   (b) Perpendicular to the H.P, 20mm in front of the V.P and its one end 15mm above the H.P.
   (c) Perpendicular to the H.P, in the V.P. and its one end in the H.P.
   (d) Inclined at 45^0 to the V.P, in the H.P. and its one end in the V.P. [4×4]

5. A regular hexagonal plane of 45mm side has a corner on H.P. and its surface is inclined at 45^0 to H.P. Draw the projections, when the diagonal through the corner, Which is on H.P. makes 30^0 with V.P. [16]

6. A pentagonal prism is resting on a corner of its base on the ground with a longer edge containing that corner inclined at 45^0 to the H.P. and the vertical plane containing that edge and the axis inclined at 30^0 to the V.P. Draw its projections. Base 40mm side; height 65mm. [16]

7. Draw the isometric view of a pentagonal pyramid, with side of base 25mm and axis 60mm long. The pyramid is resting on its base on H.P, with an edge of the base (away from the observer) parallel to V.P. Use the off-set method. [16]

Code No: Z0223/R07 **Set No. 4**

8. Draw the front view, top view and left right view of the object shown in figure 8 (All dimensions are in mm). [16]

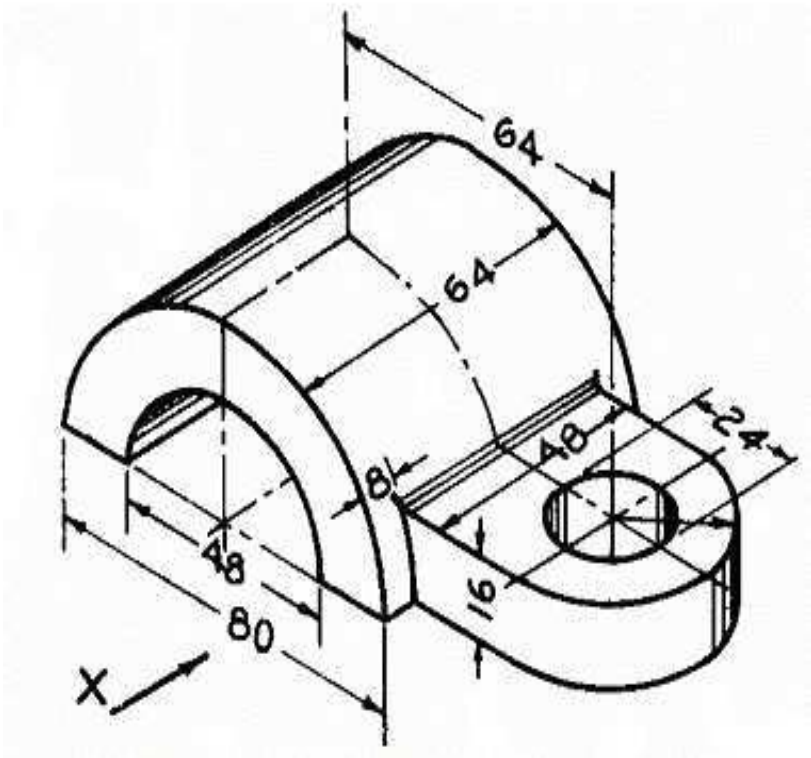

Figure 8

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