Code No: R161206 **R16** SET - 1

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018
ENGINEERING DRAWING
(Com. to CE, EEE, Bio-Tech)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

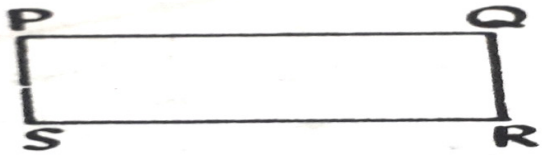
1. a) Construct a regular heptagon with a side of 30mm by general method. (4M)

   b) A point D is 25mm below the HP and 25mm behind the VP. Draw its projections. (2M)

   c) Draw the projections of a 75mm long straight line, perpendicular to the HP, in the VP and its one end in the HP. (2M)

   d) Draw a cone, base 40mm diameter and axis 50mm long resting on the HP on their respective bases. (4M)

   e) The top view of a rectangle, the surface of which is horizontal is shown in below figure. Draw its isometric view. (2M)



PART -B

2. a) The foci of an ellipse are 90mm apart and the minor axis is 72mm long. Determine the length of the major axis. Construct the ellipse, draw a tangent to the ellipse from any point outside the ellipse. (7M)

   b) The actual length of 500m is represented by a line of 15cm on a drawing. Construct a vernier scale to read up to 600m. Mark on the scale a length of 549m. (7M)

3. a) A point P is 20mm below the HP and lies in the third quadrant. Its shortest distance from xy is 40mm. Draw its projections. (7M)

   b) A line EF 60mm long is in VP and inclined to HP. The top view measures 45mm. The end E is 15mm above HP. Draw the projections of the line. Find its inclination with HP. (7M)

4. The end A of a line AB is in the HP and 25mm behind the VP. The end B is in the VP and 50mm above the HP. The distance between the end projectors is 75mm. Draw the projections of AB and determine its true length, traces and inclinations with the two planes. (14M)
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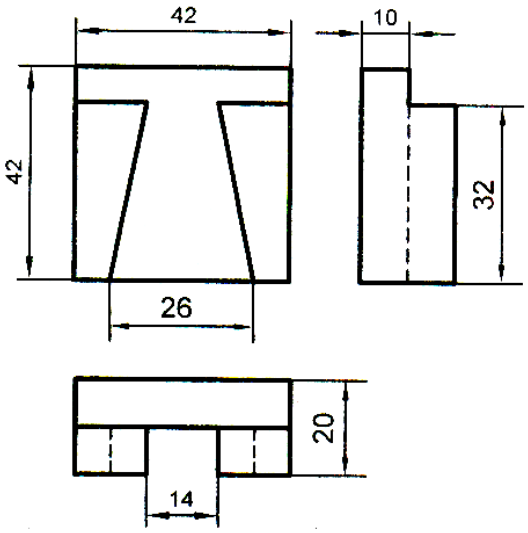
5. A thin 30^0-60^0 set square has its longest edge in the VP and inclined at 30^0 to the HP. Its surface makes an angle of 45^0 with the VP. Draw the projections. (14M)

6. Draw the projections of a cone, base 75mm diameter and axis 100mm long, lying on the HP on one of its generators with the axis parallel to the VP. (14M)

7. Draw the isometric views for the below figure: (All dimensions are in mm). (14M)



Code No: R161206 **R16** SET - 2

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018
ENGINEERING DRAWING
(Com. to CE, EEE, Bio-Tech)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

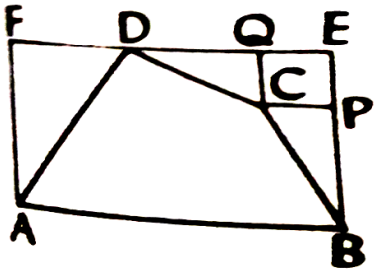
1. a) Construct a regular hexagon with a side of 30mm. (4M)

   b) Draw the projections of the point E, 15 mm above the HP and 50mm behind the VP. (2M)

   c) Draw the projections of a 75mm long straight line, parallel to and 40mm in front of the VP and in the HP. (2M)

   d) Draw a cylinder, base 40mm diameter and axis 50mm long resting on the HP on their respective bases. (4M)

   e) The front view of a quadrilateral whose surface is parallel to the VP is shown in below figure. Draw its isometric view. (2M)



PART -B

2. a) Construct a diagonal scale of RF= $\frac{1}{6250}$ to read up to 1 kilometre and to read meters on it. Show a length of 653 meters on it. (7M)

   b) A plot of ground is in the shape of a rectangle 110m x 50m. Inscribe an elliptical lawn in it. Take a suitable scale. (7M)

3. a) A line RS measuring 52mm is in HP and inclined at an angle of 45^0 to VP. The end R is 10mm in front of VP. Draw the projections. (7M)

   b) A point P is 25mm below HP and lies in the third quadrant. Its shortest distance from xy is 45mm. Draw it projections. (7M)

4. Two oranges on a tree are respectively 1.8m and 3m above the ground, and 1.2m and 2.1m from a 0.3m thick wall, but on the opposite sides of it. The distance between the oranges, measured along the ground and parallel to the wall is 2.7m. Determine the real distance between the oranges. (14M)

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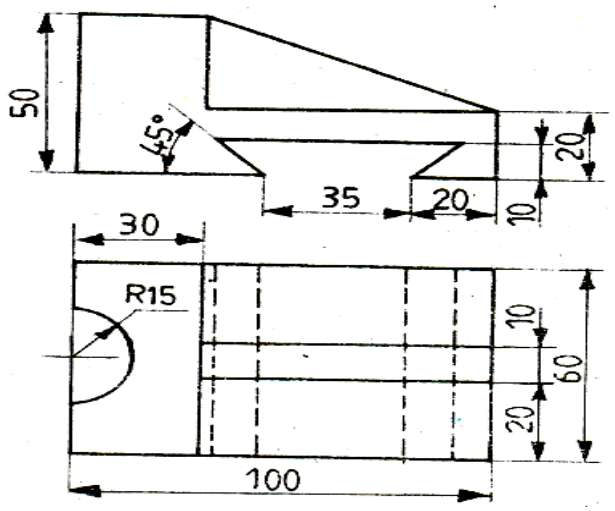
Code No: R161206 **R16** SET - 2

5. A circular lamina of 60mm diameter rests on HP on a point 1 on the circumference. The lamina is inclined to HP such that the top view of it is an ellipse of minor axis 35mm. The top view of the diameter through the point 1 makes an angle of 45^0 with VP. (i) Draw the projections (ii) Determine the angle made by the lamina with HP. (14M)

6. Draw the projections of a pentagonal prism, base 25mm side and axis 50mm long, resting on one of its rectangular faces on the ground, with the axis inclined at 45^0 to the VP. (14M)

7. Draw the isometric views for the below figure: (All dimensions are in mm). (14M)



Code No: R161206 **R16** SET - 3

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018
ENGINEERING DRAWING
(Com. to CE, EEE, Bio-Tech)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

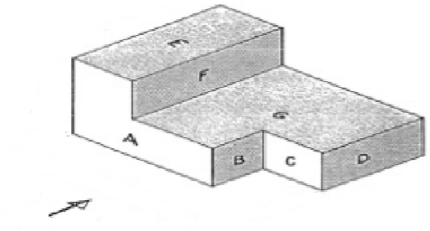
1. a) Draw a line AB 80mm long and divide it into five equal parts. (2M)

   b) A point A is 2.5cm above the HP and 3cm infront of the VP. Draw its projections. (2M)

   c) Draw the projections of a 75mm long straight line, perpendicular to the HP, 20mm infront of the VP and its one end 15mm above the HP. (2M)

   d) A hexagonal prism has one of its rectangular faces parallel to the HP. Its axis is perpendicular to the VP and 3.5cm above the ground. (4M)

   e) Draw the top view for the below figure, assuming suitable dimensions: (4M)



PART -B

2. a) Construct a diagonal scale of 1: 2.5 showing centimeters and millimeters and long enough to measure up to 20 centimeters. Show 15.4cm on it. (7M)

   b) Inscribe an ellipse in a rectangle having sides of 150mm and 100mm long. (7M)

3. a) The top view of a 75mm long line measures 55 mm. The line is in the VP, its one end being 25 mm above the HP. Draw its projections. (7M)

   b) Two points A and B are in the HP. The point A is 30mm in front of the VP; while B is behind the VP. The distance between their projectors is 75 mm and the line joining their top views makes an angle of $45^0$with xy. Find the distance of the point B from the VP. (7M)

4. The top view of a 75mm long line AB measures 65mm, while the length of its front view is 50mm. Its one end A is in the HP and 12mm in front of the VP. Draw the projections of AB and determine its inclinations with the HP and the VP. (14M)
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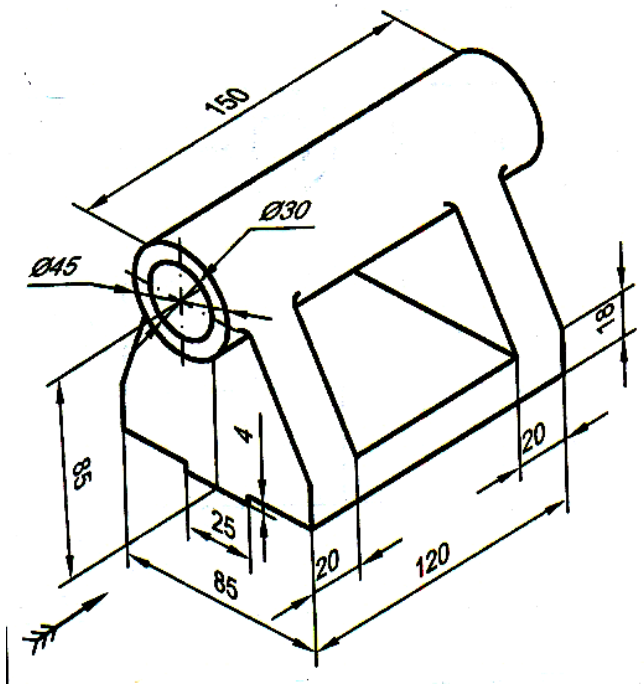
5. A semi-circular lamina of 64mm diameter has its straight edge in VP and inclined at an angle of 45^0 to HP. The surface of the lamina makes an angle of 30^0 with VP. Draw the projections. (14M)

6. A hexagonal pyramid, base 25mm side and axis 50mm long, has an edge of its base on the ground. Its axis is inclined at 30^0 to the ground and parallel to the VP. Draw its projections. (14M)

7. Draw (i) Front View (ii) Top View (iii) Side View for the below figure. (14M)

   (All dimensions are in mm).



Code No: R161206 **R16** SET - 4

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2018
ENGINEERING DRAWING
(Com. to CE, EEE, Bio-Tech)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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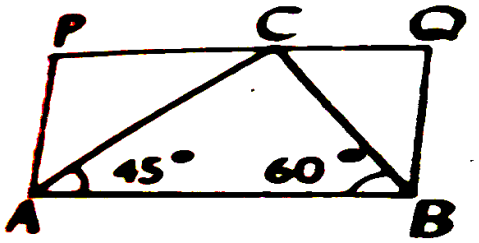
PART –A

1. a) A point B is 40mm below the HP and 25mm infront of the VP. Draw its projections. (2M)

   b) Draw the projections of a 75mm long straight line, inclined at 45^0 to the VP, in the HP and its one end in the VP. (4M)

   c) A triangular prism base 40mm side and height 65mm is resting on the HP on one of its rectangular faces with the axis parallel to the VP. Draw its projections. (4M)

   d) The front view of a triangle having its surface parallel to the VP is shown in below figure. Draw its isometric views. (4M)



PART -B

2. a) The major axis of an ellipse is 150mm long and the minor axis is 100mm long. Find the foci and draw the ellipse by arcs of circles method. Draw a tangent to the ellipse at a point on it 25mm above the major axis. (7M)

   b) Construct a diagonal scale of R.F=1/32 showing yards, feet and inches to measure up to 4 yards. Show 1 yard 2 feet 7 inches on it. (7M)

3. a) The front view of a line, inclined at 30^0 to the VP is 65mm long. Draw the projections of the line, when it is parallel to and 40mm above the HP; it's one end being 30mm in front of the VP. (7M)

   b) Draw the projections of the following points on the same ground line, keeping the projectors 25mm apart. (7M)
      (i) D, 25mm below the HP and 25mm behind the VP.
      (ii) E, 15mm above the HP and 50mm behind the VP.
      (iii) F, 40mm below the HP and 25mm in front of the VP.
~~~~~~

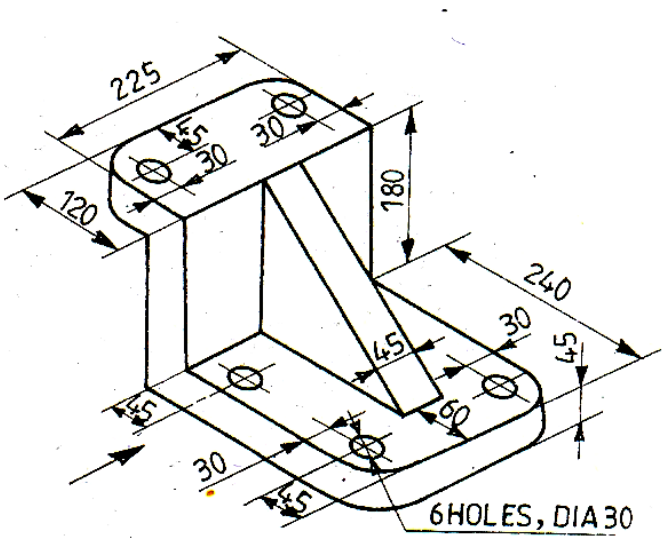
4. The end A of a line AB is 25mm behind the VP and is below the HP. The end B is 12mm in front of the VP and is above the HP. The distance between the projectors is 65mm. The line is inclined at 40^0 to the HP and its HT is 20mm behind the VP. Draw the projections of the line and determine its true length and the VT. (14M)

5. Draw an equilateral triangle of 75mm side and inscribe a circle in it. Draw the projections of the figure, when its plane is vertical and inclined at 30^0 to the VP and one of its sides of the triangle is inclined at 45^0 to the HP. (14M)

6. A Hexagonal prism, base 35mm side and height 50mm has a hole of 40mm diameter drilled centrally through its ends. Draw its projections when it is resting on one of its corners on the HP with its axis inclined at 60^0 to the HP and two of its faces parallel to the VP. (14M)

7. Draw (i) Front View (ii) Top View (iii) Side View for the below figure. (14M)

(All dimensions are in mm).



Code No: R161206 **R16** SET - 1

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2019
ENGINEERING DRAWING
(Com. to CE, EEE, BIO)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1. a) An electric switch and a bulb fixed on a wall are 5 m apart. The distance between them measured parallel to the floor is 4 metres. If the switch is 1 m above the floor, find the height of the bulb and inclination of line joining the two with the floor. (8M)

   b) A square plane of diagonal 70 mm is kept in such a way that its top view appears as a rhombus of 70 mm and 45 mm diagonals. Draw its projections and determine inclination of the plane with the H.P. (6M)

PART –B

2. a) Draw regular pentagon, hexagon and a heptagon on a common edge of side 30 mm. (6M)

   b) Construct a scale of 1:40 to read metres, decimeters and centimeters and long enough to measure up to 6 m. Mark a distance of 4.76 m on it. (8M)

3. a) A point U is 12 mm below HP, 25 mm behind VP and 38 mm away from Profile Plane. Draw front view, top view and left side view of the point. (6M)

   b) An 80 mm long line PQ is inclined at 30^0 to the VP and is parallel to the HP. The end P of the line is 20 mm above the HP and 40 mm in front of the VP. Draw the projections of the line and determine its traces. (8M)

4. The end projectors of a line PQ are 50 mm apart, while those drawn for its HT and VT are 90 mm apart. The HT is 40 mm in front of the VP and the VT is 80 mm above the HP. Draw the projections of PQ if its end P is 10 mm above the HP Also, determine its true length and inclinations with the reference planes. (14M)

5. A pentagon ABCDE of side 30 mm has its side AB in the VP and inclined at 30^0 to the HP and the corner B is 15 mm above the HP and the corner D is 30 mm in front of the VP. Draw the projections of the plane and find its inclination with the VP. (14M)

6. A pentagonal prism, of base side 30 mm and axis 70 mm is resting on one of its rectangular faces in the VP. Draw its projections. (14M)
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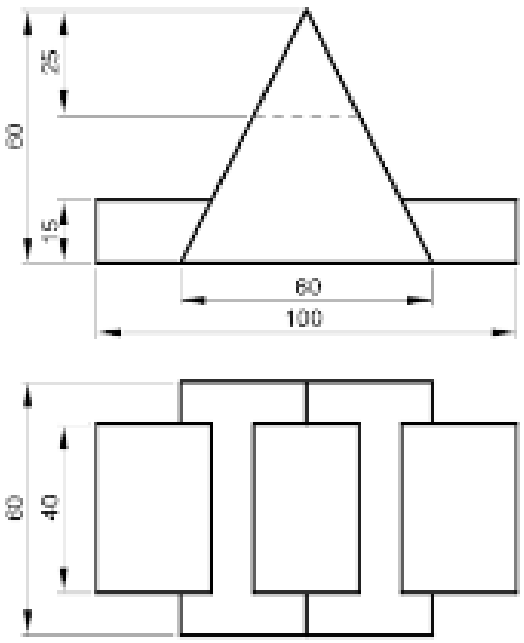
7. The front and top views of an object are shown in figure. Draw its isometric view. (14M)



Code No: R161206 **R16** SET - 2

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2019
ENGINEERING DRAWING
(Com. to CE, EEE, BIO)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1. a) Divide an 80 mm long straight line into five equal parts. (4M)

   b) The top views of a line measures 60 mm. the line is parallel to the VP and inclined at 45^0 to the HP one end of the line is 25 mm in front of the VP and lies on the HP. Draw its projections and determine the true length. (6M)

   c) A hexagonal plane of side 25 mm has its surface parallel to and 25 mm in front of VP. Draw its projections when a side is parallel to HP. (4M)

PART –B

2. a) Inscribe the largest possible ellipse in a rectangle of sides 160 mm and 100 mm. (6M)

   b) The distance between two stations by road is 200 km and it is represented on a certain map by a 5 cm long line. Find the R.F and construct a diagonal scale showing single kilometer and long enough to measure up to 600 km. Show a distance of 467 km on this scale. (8M)

3. a) Two points P and Q lying in the VP are 90 mm apart. The horizontal distance between the points is 60 mm. if the point P is 15 mm above the HP. Find the height of the point Q above the HP and the inclination of the line joining P and Q with the HP. (6M)

   b) A 60 mm long line AB is parallel to and 20 mm in front of the VP the ends A and B of the line are 10 mm and 50 mm above the HP, respectively. Draw the projections of the line and determine its inclination with the HP. (8M)

4. An 80 mm long line MN has its end M 15 mm in front of the VP the distance between the ends projector is 50 mm. The front view is parallel to and 20 mm above reference line. Draw the projections of the line and determine its inclination with the VP. Also locate the traces. (14M)

5. The top view of a plane is a regular pentagon of side 30 mm having one side inclined at 30^0 to the VP. Its front view is a straight line inclined at 45^0 to the reference line. Draw the projections of the plane and determine its true shape. (14M)

6. A hexagonal prism of base side 30 mm and axis 70 mm is resting on a rectangular face on the HP. Draw its projections. (14M)
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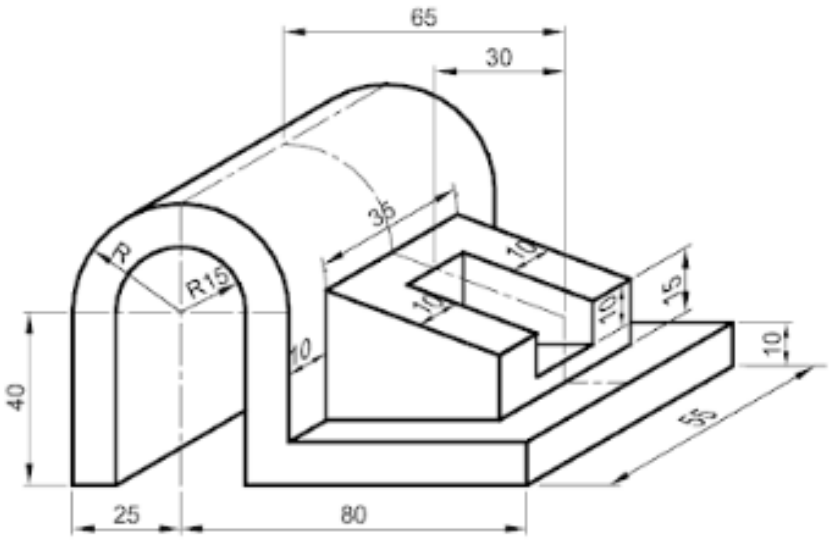
7. Draw the front view and top view for the given figure. (14M)



Code No: R161206 **R16** SET - 3

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2019
ENGINEERING DRAWING
(Com. to CE, EEE, BIO)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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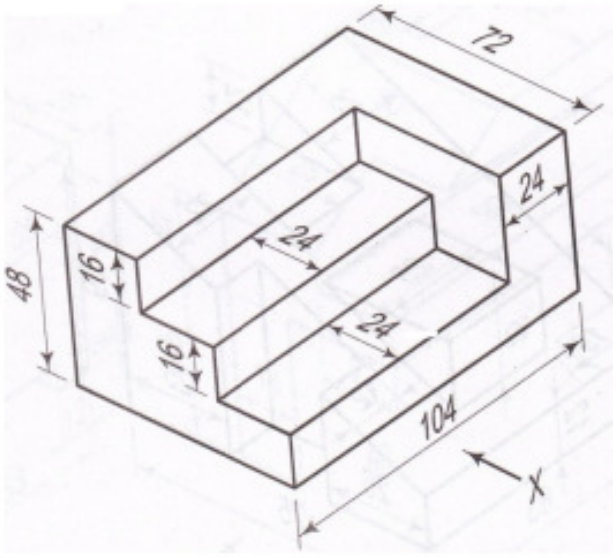
PART –A

1. a) Draw the following views of the block shown in figure below. (9M)
Front View (ii) Top View (iii) Side View



b) A point Q is 25 mm above HP, 15 mm away from VP and 40 mm in front of profile plane. Draw the elevation, plan and left side view of the point. (5M)

PART –B

2. a) Points moves in a plane in such a way that the sum of its distances from two fixed points 100 mm apart is 130 mm. Name and draw the locus of this point. (6M)

b) A real length of 10 m is represented by a line of 5 cm on a drawing. Find the R.F. and construct a vernier scale such that the least count is 2 dm and can measure up to 25 m. mark a distance of 19.4 m on it. (8M)

3. a) State the position of the point, the top view of which lies on the reference line and the front view 50 mm below it. (6M)

b) A 75 mm long line is parallel to and 40 mm in front of the VP the ends of the line are 25 mm and 50 mm above the HP. Draw its projections and determine the true inclination of the line with the HP. (8M)
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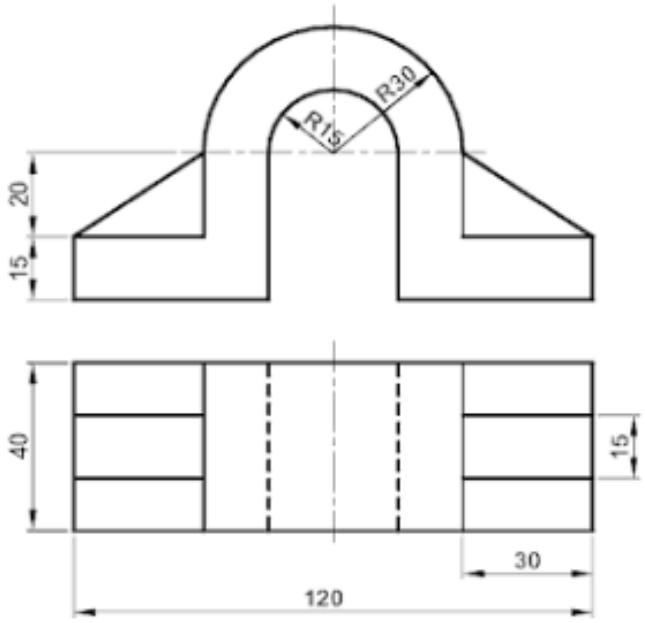
4. A line PQ inclined at an angle of 30^0 to the HP has ends P and Q 30 mm and 65 mm in front of the VP, respectively. The length of the top view is 60 mm and its HT is 15 mm in front of the VP. Draw the projections of the line PQ and determine its true length and the VT. (14M)

5. A 60^0 set-square has the shortest edge of 40 mm lying in the VP the surface is inclined to the VP and perpendicular to the HP such that the front view appears as an isosceles triangle, draw the projections of the set-square and determine its inclination with the VP. (14M)

6. A pentagonal pyramid of base side 30 mm and axis 55 mm has a triangular face in the VP and the base edge contained by that triangular face is perpendicular to the HP. Draw its projections. (14M)

7. The front and top views of an object are shown in below figure. Draw its isometric view. (14M)



Code No: R161206 **R16** SET - 4

I B. Tech II Semester Regular/Supplementary Examinations, April/May - 2019
ENGINEERING DRAWING
(Com. to CE, EEE, BIO)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1. a) A composite plate of negligible thickness is made up of a rectangle with sides 60 mm and 40 mm and a semicircle on its longer side. The plate lies in the HP. with one of the shorter sides parallel to the VP. Draw its projections. (8M)

   b) Locate the traces of a straight line PQ, kept in the first angle for the following case. End P is 20 mm above the HP and 30 mm in front of the VP and the end Q is 80 mm above the HP and 60 mm in front of the VP the end projectors are 60 mm apart. (6M)

PART –B

2. a) The major and minor axes of an ellipse are 140 mm and 90 mm respectively. Find the foci and draw the ellipse using arcs of circle method. Draw a tangent and a normal to the ellipse at a point 40 mm above the major axis. (6M)

   b) On a map a rectangle of 125 cm × 200 cm represents an area of 6250 square kilometers. Draw a backward vernier scale to show decametre and long enough to measure up to 7 km. Show a distance of 6.43 km on it. (8M)

3. a) State the position of the point, the top view of which lies 50 mm above the reference line and the front view 30 mm below the top view. (6M)

   b) A 80 mm long line PQ has end P 20 mm above HP and 40 mm in front of the VP. The line is inclined at 30^0 to the HP and is parallel to the VP. Draw the projections of the line and determine its traces. (8M)

4. A line PQ inclined at 30^0 to the VP has the end P 15 above the HP. Its front view measures 70 mm and is inclined at 45^0 to reference line. The VT of the line is 25 below the HP. Draw the projections of the line PQ and determine its true length and the HT. (14M)

5. A circular lamina of diameter 60 mm has a centrally punched square hole of side 30 mm. Draw its projections when a diagonal of the hole is parallel to the VP and inclined at 30^0 to the HP. While the other is inclined at 45^0 to the VP. (14M)

6. A hexagonal prism, base side 40 mm and axis 40 mm has a centrally drilled circular hole of diameter 40 mm. Draw its projections when the prism is resting on an edge of its base on the HP and the axis inclined at 60^0 to the HP and parallel to the VP. (14M)
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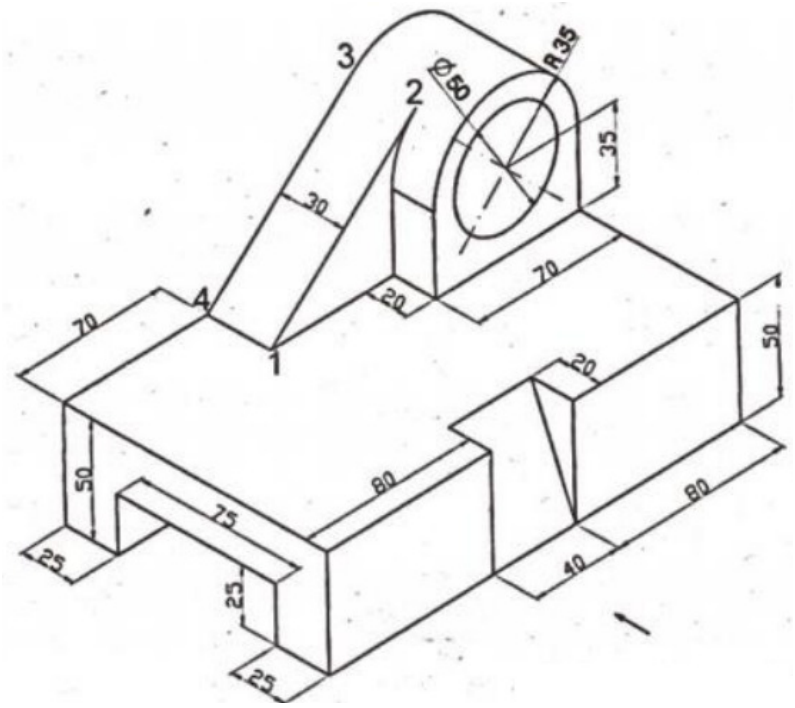
Code No: R161206 **R16** SET - 4

7. Convert the following isometric view in to orthographic views. All dimensions are in millimeters. (14M)



Code No: R161206 **R16** SET - 1

I B. Tech II Semester Supplementary Examinations, Nov/Dec - 2019
ENGINEERING DRAWING
(Com. to CE, EEE, Bio-Tech)

Time: 3 hours Max. Marks: 70

Note: 1. Question paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1. a) Draw the projections of a 75 mm long line in the following positions (6M)
(i) Perpendicular to HP, 18 in front of VP, and its one end 12 m, above HP
(ii) Perpendicular to HP in the VP, and its one end is in HP.

b) A Pentagon of side 30mm, has one corner on HP. its plane is inclined at 65^0 to VP and perpendicular to HP. draw its projections. (8M)

PART –B

2. a) Draw an ellipse using arcs of circles method having major axis of 130 mm and foci being 100 mm apart. (7M)

b) Construct a vernier scale to read the distances corrected to decameter on a map in which the actual distances are reduced in the ratio of 1:50,000.The scale should be long enough to measure 8 km. Mark a length of 4.82 km on scale by constructing backward vernier scales. (7M)

3. a) A point H is 15 mm above HP, 10 mm behind VP and 10 mm in front of profile plane. Draw front view, top view and left side view of the point. (7M)

b) A line of 100 mm long is parallel to 30 mm above HP. Its two ends are 25 mm and 50 mm in front of VP respectively. Find its inclination with VP. (7M)

4. A line PQ of 90 mm long has its end P at 20 mm above HP and 25 mm in front of VP. Its front view and top view measure 75 mm and 80 mm respectively. Draw the projections of the line and determine its inclinations with HP and VP. Locate traces also. (14M)

5. A Square plane ABCD of side has its plane parallel to HP and 20 mm away from it. Draw its projections of the plane, when two of its sides are (i) parallel to VP (ii) Inclined at 30^0 to VP. (14M)

6. A hexagonal pyramid of base side 30 mm and axis 60 mm is lying on a slant edge on the HP with the axis parallel to VP. Draw its projections. (14M)
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7. Draw the front view, top view and side view of the figure.1. (14M)

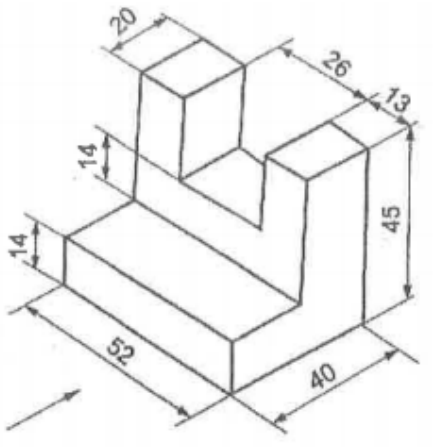

Figure.1