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

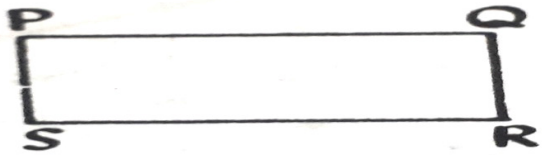
1. a) Construct a regular heptagon with a side of 30mm by general method. (4M)

   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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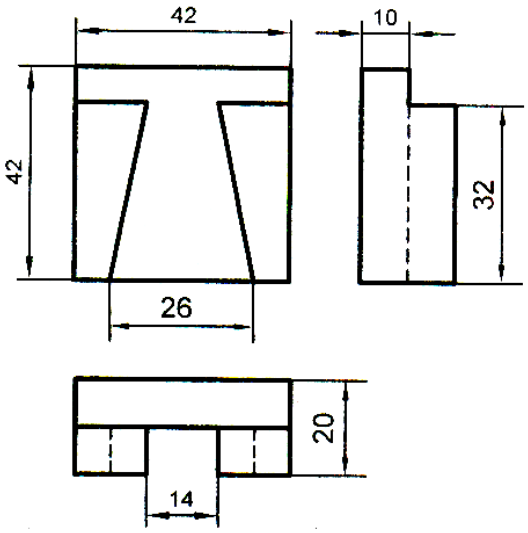
5. A thin 30^0-60^0 set square has its longest edge in the VP and inclined at 30^0 to the HP. Its surface makes an angle of 45^0 with the VP. Draw the projections. (14M)

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

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2. Answering the question in **Part-A** is Compulsory
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

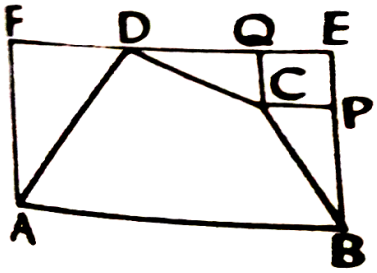
1. a) Construct a regular hexagon with a side of 30mm. (4M)

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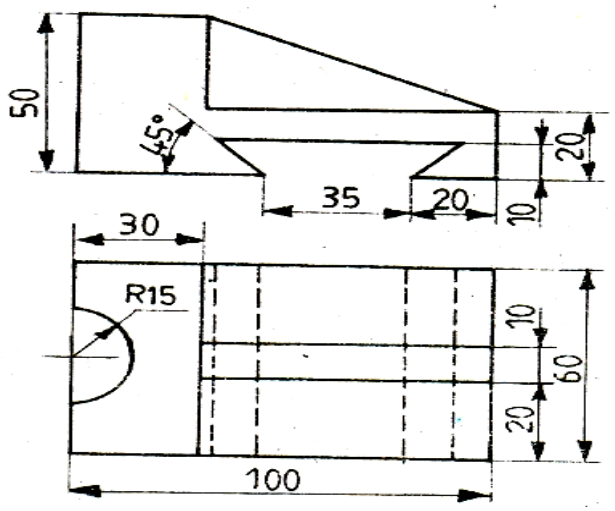
Code No: R161206 **R16** SET - 2

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
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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

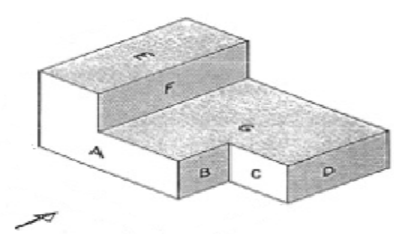
1. a) Draw a line AB 80mm long and divide it into five equal parts. (2M)

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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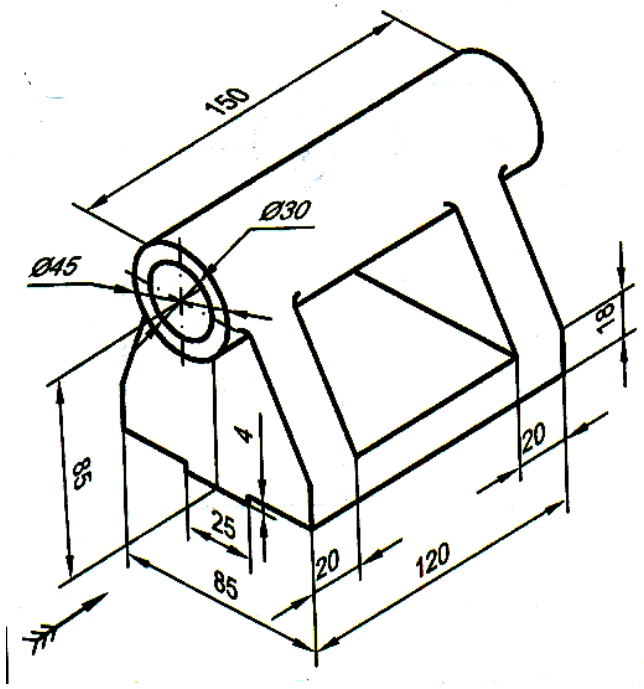
5. A semi-circular lamina of 64mm diameter has its straight edge in VP and inclined at an angle of 45^0 to HP. The surface of the lamina makes an angle of 30^0 with VP. Draw the projections. (14M)

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
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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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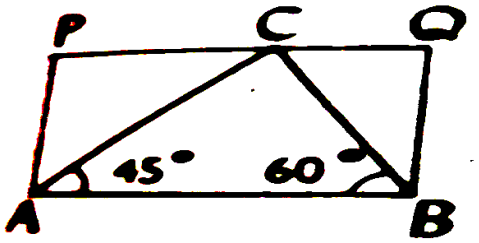
PART –A

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.
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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).