Subject Code: R161112/R16 **Set No - 1**

I B. Tech I Semester Regular Examinations December- 2016

ENGINEERING DRAWING

(Com. to CSE, IT, Agri.E)

Time: 3 hours **Max. Marks: 70**

Question Paper Consists of **Part-A** and **Part-B**
Answering the question in **Part-A** is Compulsory,
Four Questions should be answered from **Part-B**
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PART-A

1. (a) Draw a line AB, 150 mm long and divide it into 11 equal parts.
   (b) A line 50 mm long is parallel to HP and perpendicular to VP. Its rear end is 20 mm in front of VP. The line is 35 mm above HP and 30 mm in front of right profile plane. Draw the three views.
   (c) Draw the three possible ways of representing the isometric projection of a hexagonal prism side of base 25 mm and height 60 mm.

[3+4+7]

PART-B

2. (a) Construct a scale having R.F = 1:400 to show meters and long enough to measure up to 60 meters. Measure a distance of 44 meters on the scale.
   (b) Draw an ellipse at major axis 100 mm and minor axis 65 mm using oblong method. Draw a tangent and normal at a point 25 mm above the major axis. [8+6]

3. (a) A Point P is at a distance of 30 mm from HP and VP. Draw the projections of the point for all possible position
   (b) A line AB of 25 mm long is perpendicular to VP and parallel to HP. The end points A and B of the line are 10mm and 35 mm in front of VP respectively. The line is 20 mm above HP. Draw its projections. [7+7]

4. (a) An electric switch (A) and bulb (B), fixed on a wall are 5m apart. The distance between them, measured parallel to the floor is 4 meters. If the switch is 1.5 meters above the floor, find the height of the bulb and inclination of the line joining the switch and bulb, with the floor.
   (b) One end of line AB is 10mm above HP and other end is 100 mm in front of VP. It's FV is 45^0 inclined to xy while it's HT & VT are 45mm and 30 mm below xy respectively. Draw projections and find TL with it's inclinations with HP & VP. [6+8]

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5. A pentagonal plate of side 30mm is resting on HP on one of its sides with its surface inclined at 45^0 to HP and the resting side is inclined at 55^0 to VP. Draw its projections. [14]

6. A hexagonal pyramid of base side 30 mm and axis length 60 mm is resting on HP on one of its base corners with its axis inclined at 35^0 to HP. The base sides containing the resting corner are equally inclined to HP. Draw its projections. [14]

7. Draw the isometric view of the object shown in figure below. [14]

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Subject Code: R161112/R16 **Set No - 2**

I B. Tech I Semester Regular Examinations Dec- 2016

ENGINEERING DRAWING

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Time: 3 hours **Max. Marks: 70**

Question Paper Consists of **Part-A** and **Part-B**
Answering the question in **Part-A** is Compulsory,
Four Questions should be answered from **Part-B**

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PART-A

1. (a) A point C is 35 mm below HP and 25 mm behind VP. Draw its projections.
   (b) A hexagonal pyramid side of base 25 mm and height 50 mm rests with its base on HP such that one of the edges of the base is inclined at 20^0 to VP. Draw the top and front views of the pyramid.
   (c) The top view of a 75 mm long line measures 55 mm. The line is in the V.P, its one end being 25 mm above the H.P. Draw its projections.

[4+5+5]

PART-B

2. (a) Construct a regular hexagon of 35 mm side with one of its side vertical.
   (b) Construct a vernier scale to show readings of $1/10^{th}$ of a meter when 3 cm represents 10 m. Construct the scale to read up to 60 m and mark the distances of 35.3 m and 47.3 m on your scale. [4+10]

3. (a) Two points A and B are on the H.P. The point A is 30mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75mm and the line joining their top views makes an angle of 45^0 with xy. Find the distance of the point B form the V.P.
   (b) A line MN 50mm long is parallel to V.P. and inclined at 30^0 to H.P. The end M is 20mm above H.P. and 10mm in front of V.P. Draw the projections of the line. [6+8]

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4. (a) The projections of a line measure 80 mm in the top view and 70 mm in the front view. The midpoint of the line is 45 mm in front of VP and 35 mm above HP. One end is 10 mm in front of VP and nearer to it. Draw the projections. Find true length and true inclinations with reference planes.

   (b) Draw the projections of line LM 40 mm long, parallel to HP and inclined at 35^0 to VP. The end L is 20 mm above HP and 15 in front of VP. Find its traces. [8+6]

5. Draw the projections of a rhombus, having diagonals 120 mm and 60 mm long, the smaller diagonal of which is parallel to both the planes, while the other is inclined to 30^0 to HP. [14]

6. A hexagonal prism side of base 25 mm and axis 50 mm long rests with one of its base corners on HP such that its base makes an angle of 60^0 to HP and its axis is parallel to VP. Draw its projections. [14]

7. Figure 1, shows the orthographic projections of the object. Draw the Isometric projection.[14]

Figure 1

(All dimensions are in mm)

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Subject Code: R161112/R16 **Set No - 3**

I B. Tech I Semester Regular Examinations Dec- 2016

ENGINEERING DRAWING

(Com. to CSE, IT, Agri.E)

Time: 3 hours **Max. Marks: 70**

Question Paper Consists of **Part-A** and **Part-B**

Answering the question in **Part-A** is Compulsory,

Four Questions should be answered from **Part-B**

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PART-A

1. (a) Draw the isometric view of Figure 1.

Figure 1

Note: All dimensions are in mm.

(b) A point B is 45 mm above HP and 60 mm behind VP. Draw its projections. [10+4]

PART-B

2. (a) The distance between Coimbatore and Madurai is 200 km and its equivalent distance on map measures 10 cm. Draw a diagonal scale to indicate 223 km and 135 km.

(b) A plot of ground is in the shape of rectangle 110 m x 50 m. Inscribe an elliptical lawn in it. Take a scale of 1: 1000. [8+6]

3. (a) Draw the projections of the following points , keeping the distance between the projectors as 25mm on the same reference line.

i) P- 25mm above HP and 45 in front of VP

ii) Q- on HP and 25 mm behind VP.

iii) R- 45mm below HP and on VP

iv) S- 30mm below HP and 40 mm in front of VP

(b) A line measuring 80 mm long has one of its end 60 mm above H.P and 20 mm in front of VP. The other end is 15 mm above HP and in front VP. The front view of the line is 60 mm long. Draw the top view. [8+6]

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4. A line AB has its end A 25 mm above HP and 20 mm in front of VP. The end B is 50 mm above HP and the line is inclined at 30^0 to VP. The distance between the end projectors of the line when measured parallel to the line of intersection of HP and VP is 60 mm.
   Draw the projections. Find the apparent lengths, apparent inclinations, true length and true inclination with HP. [14]

5. a) Draw the projections of a circle of 75 mm diameter having the end A of a diameter AB in the H.P., the end B in the V.P., and the surface inclined at 30^0 to the H.P. and at 60^0 to the V.P.
   b) Draw projections of a square lamina of 40 mm side that has a corner on H.P. and 20 mm in front of V.P. All sides equally inclined to H.P and parallel to V.P. [8+6]

6. Draw the projections of the cylinder base 30 mm diameter and axis 40 mm long resting with a point of its base circle on HP such that the axis is making an angle of 30^0 with HP and parallel to VP. [14]

7. Figure 2 shows pictorial view of an object. Draw (i) Front View (ii) Left hand side view (iii) Top View iv) Dimension the views [14]

Figure 2
(All dimensions are in mm)

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Subject Code: R161112/R16 **Set No - 4**

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Time: 3 hours **Max. Marks: 70**

Question Paper Consists of **Part-A** and **Part-B**
Answering the question in **Part-A** is Compulsory,
Four Questions should be answered from **Part-B**
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PART-A

1. (a) An equilateral triangular lamina of side 30 mm is parallel to H.P. and perpendicular to V.P One of its sides is 20 mm in front of V.P. and 30 mm above H.P. Draw its projections.
   (b) A hexagonal pyramid side of base 25 mm, axis 50 mm long lies with one of the its triangular faces on HP and its axis is parallel to the VP. Draw its projections.
   (c) Construct a pentagon with a side of 30 mm. [5+5+4]

PART-B

2. (a) Construct an ellipse when the major axis is 120 mm and the distance between the foci is 108 mm. Determine the length of the minor axis. Use arc and circles method.
   (b) The actual length of 300 m of an auditorium is represented by a line of 10 cm on drawing. Draw a vernier to read up to 400m mark on it, a length of 343 m. [7+7]

3. (a) The front view of a 125 mm long line PQ measures 80 mm and its top view measures100 mm. Its end Q and the mid-point M are in the first quadrant, M being 20 mm from both the planes. Draw the projections of the line PQ.
   (b) A point P is 15 mm above H.P and 20 mm in front of the V.P. Another point Q is 25 mm behind the V.P and 40 mm below the H.P. Draw projections of P and Q keeping the distance between their projectors equal to 90 mm. Draw straight lines joining (i) their top views and (ii) their front views. [7+7]

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4. (a) The distance between the end projectors of a line AB is 60mm. The end A is 25mm above H.P. and 45mm in front of V.P., while the other end B is 60mm above H.P. and 15mm in front V.P. Draw projections and find the true length and also inclination of the line with H.P. and V.P.

   (b) A line AB, 75 mm long is in the second quadrant with the end A in the H.P. and the end B in the V.P. The line is inclined at 30^0 to the H.P. and at 45^0 to the V.P. Draw the projections of AB and determine its traces. [7+7]

5. A regular pentagonal lamina of 30 mm side has one edge in HP and inclined at an angle of 30^0 to VP. Draw its projections when its surface is inclined at 45^0 to HP. [14]

6. A cone of 30 mm diameter and 70 mm height rests on the ground on a point of its base circle. The axis of the cone is inclined at an angle of 45^0 to HP and parallel to VP the point touching the ground is 30 mm in front of VP. Draw the projections of the cone. [14]

7. Figure 1, shows pictorial view of an object. Draw i) Front view ii) Top view iii) Dimension the view [14]

Figure 1

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