I B. Tech I Semester Regular Examinations Feb./Mar. - 2014
ENGINEERING DRAWING
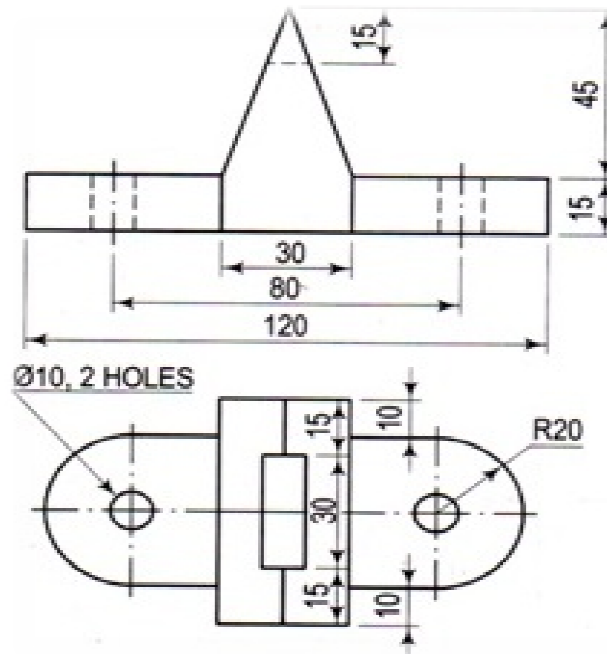**(Common to ECE, EIE, Bio-Tech, EComE, Agri.E)**

Time: 3 hours
Max. Marks: 70

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

PART-A

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

Note: All dimensions are in mm.

Fig.1

(b) Draw the projections of the straight line AB of 100 mm length when one of its ends is touching V.P and the other end is touching HP. The angles of inclination with H.P and V.P are 40^0 and 50^0 respectively.

[12+10]

PART-B

2.(a) The area of a field is 50000 sq m. The length and the breadth of the field, on the map is 10 cm and 8 cm respectively. Construct a diagonal scale which can read up to one metre. Mark the length of 235 metre on the scale. What is R.F of the scale?

(b) The foci of an ellipse are 90 mm apart and the minor axis is 72 mm long. Determine the length of the major axis. Construct the ellipse.

[8+8]

3.(a) Two points A and B are in H.P. The point A is 30 mm in front of the V.P while B is behind the V.P. 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 V.P.

(b) A line PQ 40 mm long is parallel to V.P and inclined at an angle of 30^0 to H.P. The lower end P is 15 mm above H.P and 20 mm in front of V.P. Draw the projections of the line.

[8+8]

4. The front view of a line AB measures 65 mm and makes an angle of 45^0 with xy. A is in the H.P and the VT of the line is 15 mm below the H.P. The line is inclined at 30^0 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.

[16]

5. Draw the projections of the circle of 50 mm diameter resting in the H.P on a point A on the circumference, its plane inclined at 45^0 to the H.P and
(a) The top view of the diameter AB making 30^0 angle with the V.P
(b) The diameter AB making 30^0 angle with the V.P.

[16]

6. Draw the projections of a cylinder 75mm diameter and 100 mm long, lying on the ground with its axis inclined at 30^0 to the V.P and parallel to the ground.

[16]

7. Draw (i) Front view (ii) Side view from the right (iii) Top view of Fig: 2

[16]

Note: All dimensions are in mm.
Fig: 2

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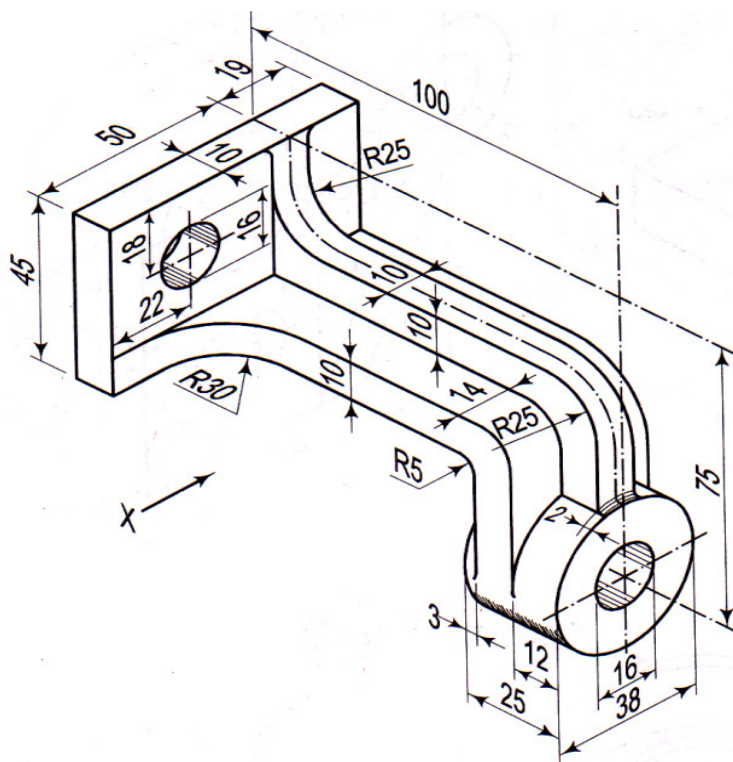**Time: 3 hours**   **Max. Marks: 70**

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

PART-A

1.(a)   Draw   (i) Front view   (ii) Top view of Fig.1.

Note: All dimensions are in mm.
Fig.1

(b)   A circular plate of negligible thickness and 50 mm diameter appears as an ellipse in the front view, having its major axis 50 mm long and minor axis 30 mm long. Draw its top view when the major axis of the ellipse is horizontal.

[12+10]

PART-B

2.(a)   Construct a vernier scale of R.F=1/80 to read inches and to measure up to 15 yards.

(b)   Construct a regular hexagon of side 28 mm when one side is horizontal.

[8+8]

3.(a)　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.

  (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.

  [8+8]

4.　A line PQ, 100 mm 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, 40 mm from P is in both the planes. Draw the projections of PQ.

  [16]

5.　Draw the projections of a regular hexagon of 25 mm side, having one of its sides in the H.P and inclined at 60^0 to the V.P and its surface making an angle of 45^0 with the H.P.

  [16]

6.　Draw the projections of a cone, base 75 mm diameter and axis 100 mm long, lying on the H.P on one of its generators with the axis parallel to the V.P.

  [16]

7.　Draw the isometric view of Fig.2:
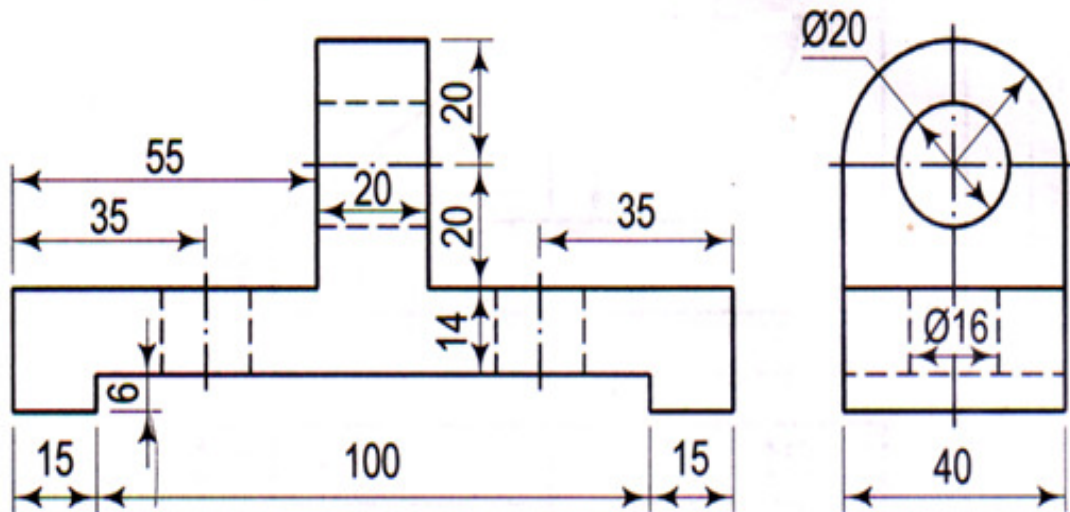
  [16]

Note: All dimensions are in mm.
Fig.2

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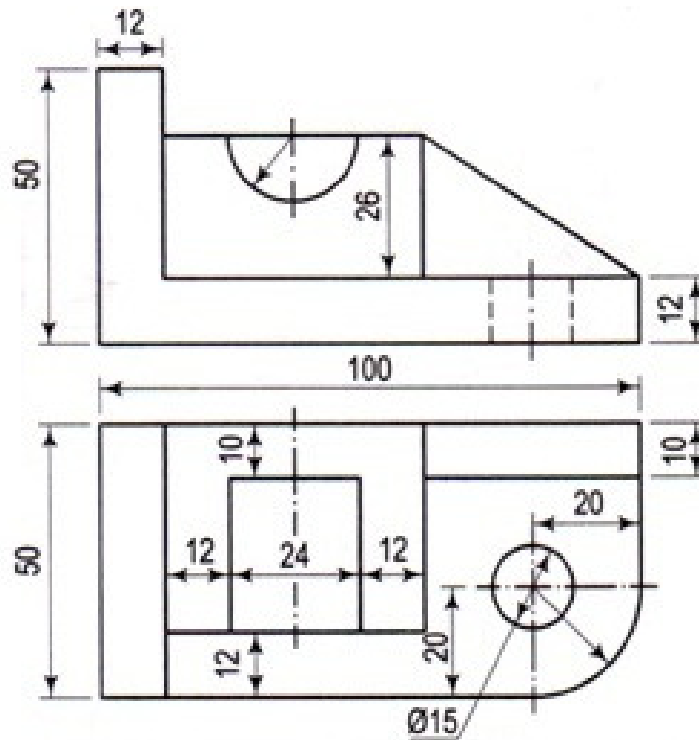
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Question Paper Consists of **Part-A** and **Part-B**
Answering the question in **Part-A** is Compulsory,
Three Questions should be answered from **Part-B**
*****

PART-A

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

Note: All dimensions are in mm.

Fig.1

(b)   A thin circular plate of 70 mm diameter is resting on its circumference such that its plane
is inclined 60^0 to the H.P and 30^0 to the V.P. Draw the projections of the plate.

[12+10]

PART-B

2. (a)   Construct a diagonal scale of R.F=1/4000 to show metres and long enough to measure
upto 500 metres.
  (b)   Construct a regular hexagon of 35 mm side with one of its side vertical?

[10+6]

3. (a) The front view of a line inclined at 30^0 to the V.P is 65 mm long. Draw the projections of the line, when it is parallel to and 40 mm above the H.P, its one end being 30 mm in front of the V.P.

   (b) Mark the projections of the following points on a common reference line, keeping the projectors 35mm apart.
   (i) A, 25mm above H.P and 35mm in front of V.P
   (ii) B, 25mm above H.P and 40 mm behind V.P
   (iii) C, 30mm below H.P and 45 mm behind V.P
   (iv) D, 30 mm below H.P and 40 mm in front V.P

[8+8]

4. A line AB, 90 mm long, is inclined at 45^0 to the H.P and its top view makes an angle of 60^0 with the V.P. The end A is in the H.P and 12 mm in front of the V.P. Draw its front view and find its true inclination with the V.P.

[16]

5. A square plate PQRS of negligible thickness having 35 mm side is lying on a corner R on H.P. One of the diagonals RP is inclined at 35^0 to H.P and 40^0 to V.P. The two sides QR and RS containing the corner R are equally inclined with H.P. Draw its projections.

[16]

6. A hexagonal pyramid side of base 25 mm axis 50 mm long lies with one of its rectangular faces on the H.P and its axis is parallel to the V.P. Draw its projections.

[16]

7. Draw   (i) Front view   and (ii) Top view of Fig.2
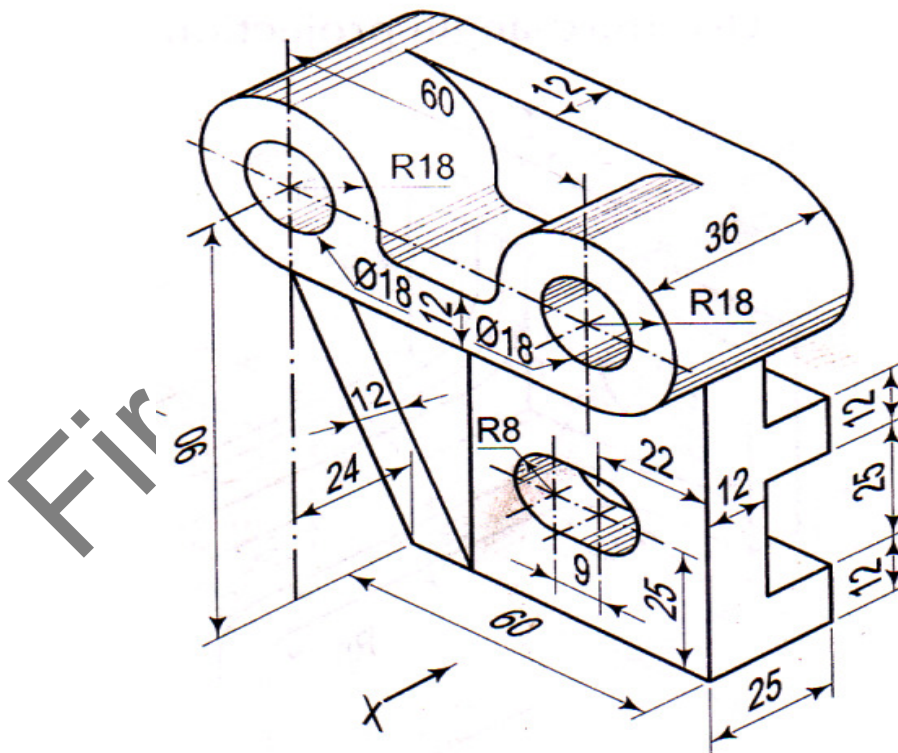
[16]

Note: All dimensions are in mm.
Fig.2

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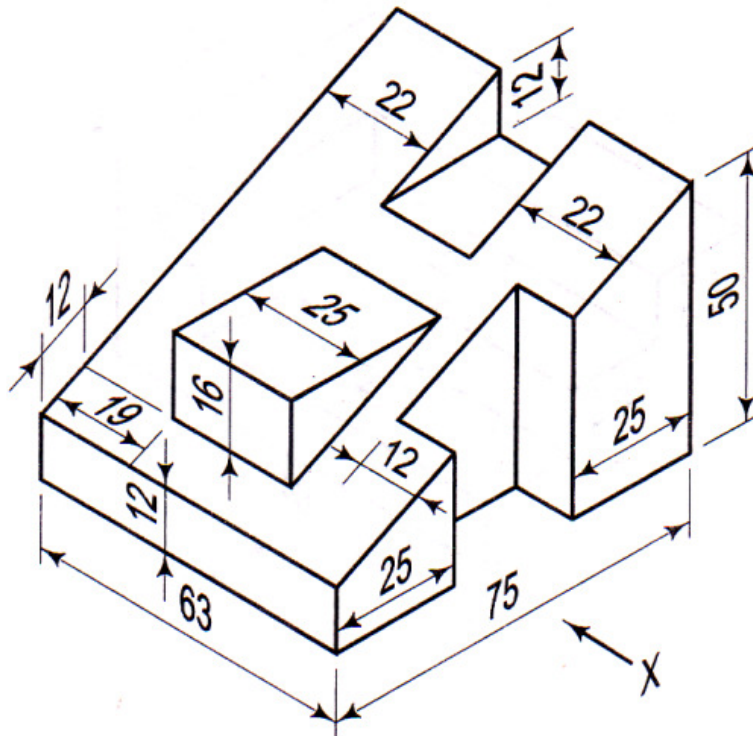**Time: 3 hours**   **Max. Marks: 70**

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

PART-A

1.(a) Draw (i) front view   (ii) side view from the left   (iii) top view of Fig.1

Note: All dimensions are in mm.

Fig.1

  (b) A hexagonal prism base 40 mm side and height 40 mm has a hole of 40 mm diameter drilled centrally through its ends. Draw its projections when it is resting on one of its corners on the H.P with its axis inclined at 60^0 to the H.P and two of its faces parallel to the V.P.

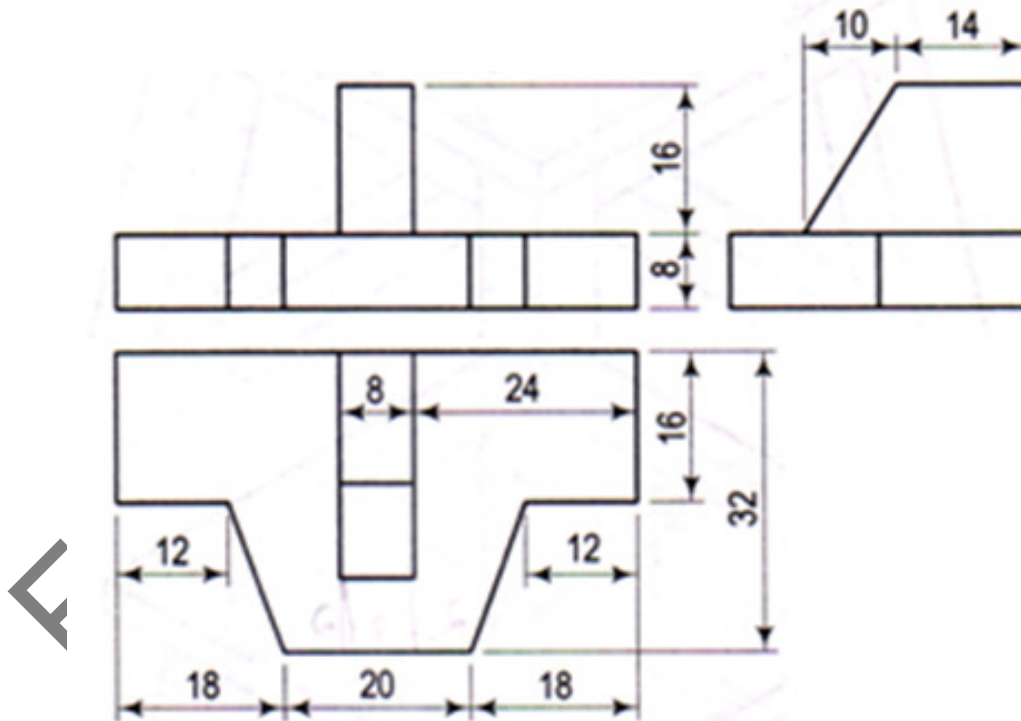[12+10]

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.
  (b) Draw a vernier scale of R.F = 1/25 to read centimeters up to 4 metres and on it, show lengths representing 2.39 m and 0.91 m.

[8+8]

3. Two pegs fixed on a wall are 4.5 metres apart. The distance between the pegs measured parallel to the floor is 3.6 metres. If one peg is 1.5 m above the floor, find the height of the second peg and the inclination of the line joining the two pegs with the floor.

[16]

4. A line CD inclined at 25^0 to H.P measures 80 mm in top view. End C in the first quadrant and 25 mm and 15 mm from H.P and V.P respectively. End D is at equal distances from both the reference planes. Draw the projections; find true length and true inclination with V.P. Locate the traces.

[16]

5. A 60^0 set-square of 125 mm longest side is so kept that the longest side in the H.P making an angle of 30^0 with the V.P and the set-square itself inclined at 45^0 to the H.P. Draw the projections of the set- square.

[16]

6. Draw the projections of a pentagonal pyramid of base 25 mm side and axis 60 mm long when it is lying on H.P on one of its base edges, such that the axis is parallel to VP and inclined at 30^0 to HP.

[16]

7. Draw the isometric view of Fig.2:

[16]

Note: All dimensions are in mm.
Fig. 2.