Subject Code: R13109/R13 **Set No - 1**

I B. Tech I Semester Regular/Supplementary Examinations Jan./Feb. - 2015

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**

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PART-A

1.(a) Draw the Isometric view of fig.1:

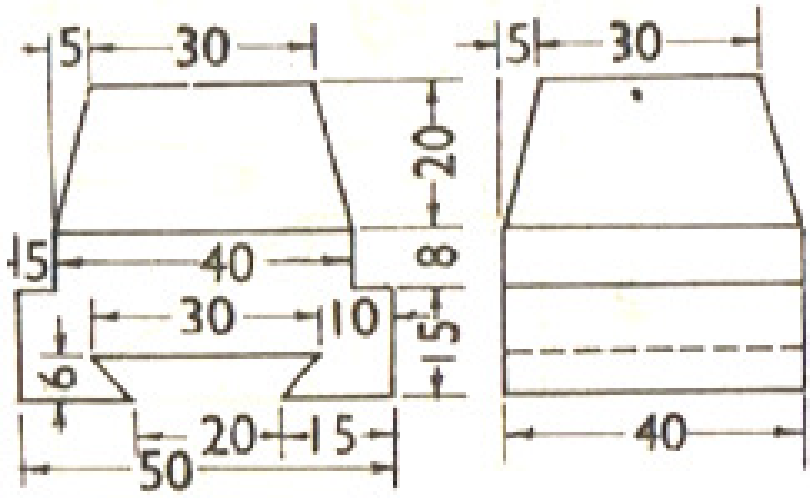

Fig.1

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

[14+8]

PART-B

2.(a) Construct a regular pentagon of 30 mm side.

(b) The area of a field is 50,000 sq. m. The length and the breadth of the field, on the map are 10 cm and 8 cm respectively. Construct a diagonal scale which can read up to 1 m. Mark the length of 235 m on the scale. What is the RF of the scale?

[8+8]

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 40 mm above the HP, its one end being 30 mm in front of the VP.

3.(b) Draw the projections of a straight line AB of 60mm long, in the following positions:
(i) Perpendicular to HP and in VP and one end on HP
(ii) Parallel to and 30 mm in front of VP and on HP
(iii) Inclined at 30^0 to VP, in HP and one end on VP

[8+8]

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

[16]

5. Draw the projections of a regular pentagonal of 40 mm side, having its surface inclined at 30^0 to the HP and a side parallel to the HP and inclined at an angle of 60^0 to the VP.

[16]

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

[16]

7. Draw fig.2 (i) Front View (ii) Top View (iii) Side View from the right

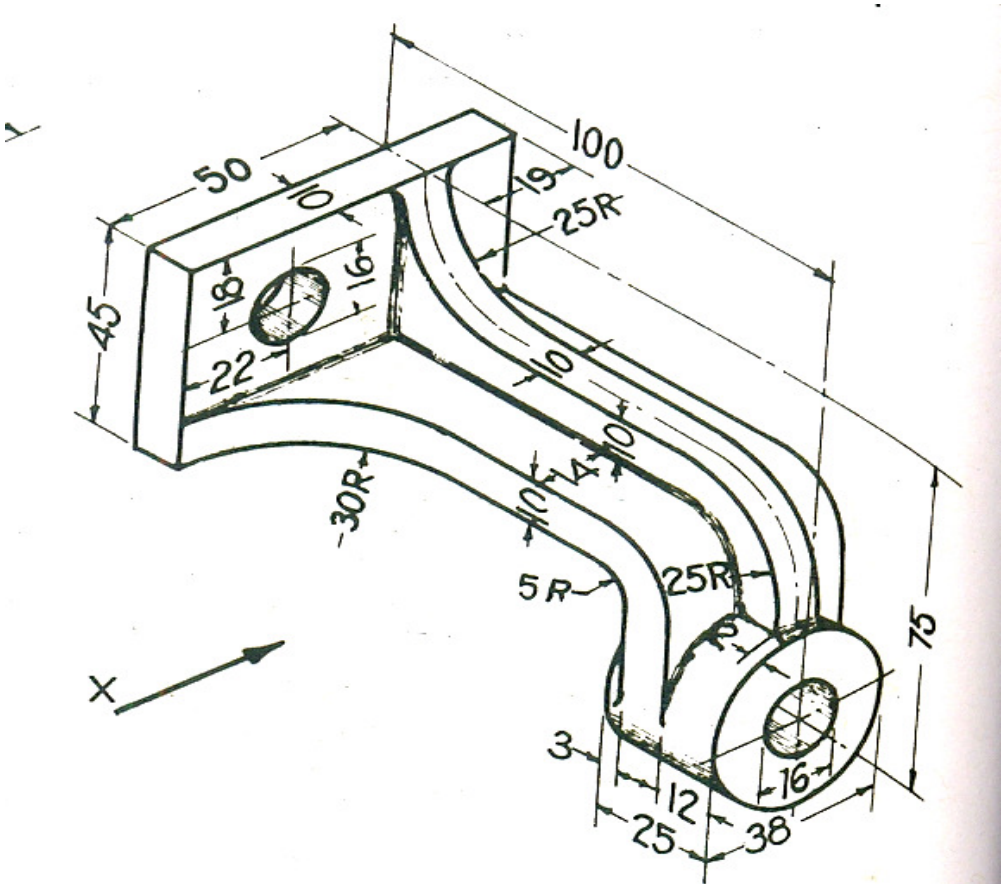

Fig.2

[16]

Subject Code: R13109/R13 **Set No - 2**

I B. Tech I Semester Regular/Supplementary Examinations Jan./Feb. - 2015

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**

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PART-A

1.(a) Draw fig.1 (i) Front View (ii) Top View (iii) Side View

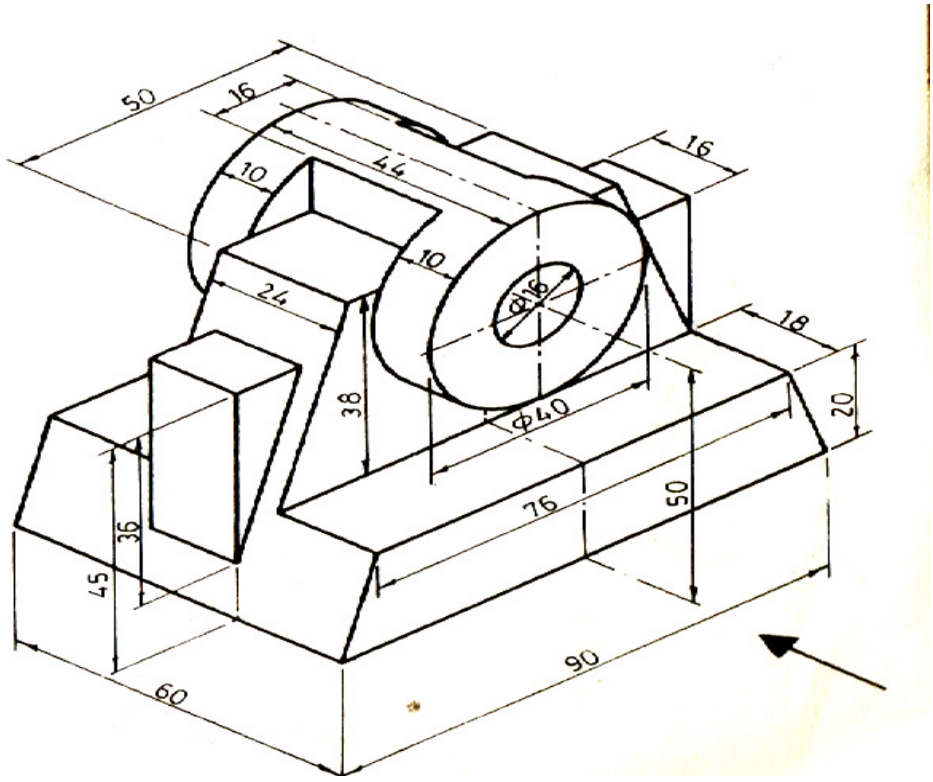

Fig.1

(b) A plate having shape of an isosceles triangle has base 50 mm long and altitude 70 mm. It is so placed that in the front view it is seen as an equilateral triangle of 50 mm sides and one side inclined at 45^0 to xy. Draw its top view.

[14+8]

PART-B

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

|''|''|||''|'''|||'|

2.(b) Draw a Vernier scale of RF=1/25 to read centimeters up to 4metres and on it, shown lengths representing 2.39 m and 0.91 m.

[8+8]

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

(b) A line AB which is perpendicular to HP and 80mm long has its end B, 20mm below HP and 30mm in front of VP. Another line AC, which is 60mm long, is parallel to both HP and VP. The midpoint D of the line AC is joined to B. Draw the projections and determine the inclination of the line BD with HP.

[8+8]

4. A line AB, inclined at 40^0 to the VP, has its ends 50 mm and 20 mm above the HP. The length of its front view is 65 mm and its VT is 10 mm above the HP. Determine the true length of AB, its inclination with the HP and its HT.

[16]

5. An hexagonal lamina of 20 mm side rests on one of its corners on HP. The diagonal passing through this corner is inclined at 45^0 to HP. The lamina is then rotated through 90^0 such that the top view of this diagonal is perpendicular to VP and the surface is still inclined at 45^0 to HP. Draw the projections of the lamina.

[16]

6. A tetrahedron of 40 mm side rests with one of its edges on HP and perpendicular to VP. The triangular face containing that edge is inclined at 30^0 to HP. Draw its projections.

[16]

7. Draw the Isometric view fig.2:

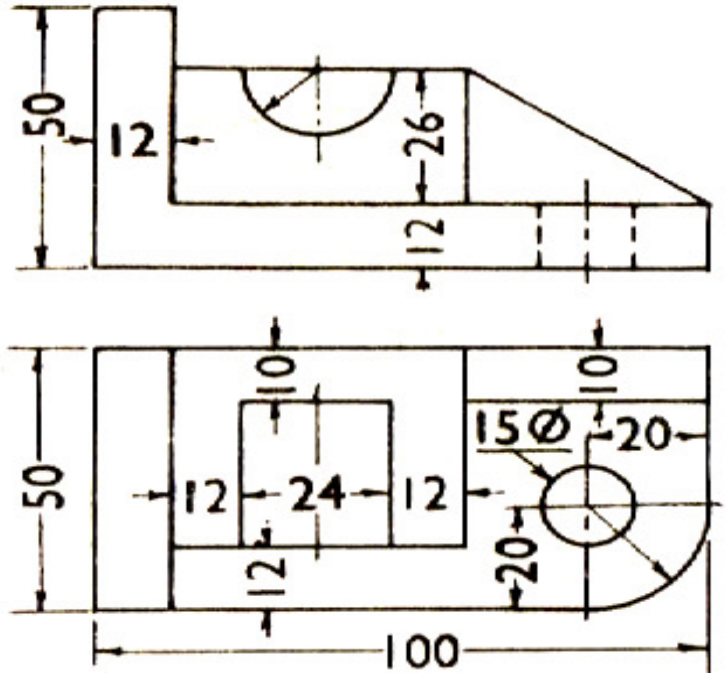

Fig.2

[16]

|''|''|||''|'''|||'|

Subject Code: R13109/R13 **Set No - 3**

I B. Tech I Semester Regular/Supplementary Examinations Jan./Feb. - 2015

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**

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PART-A

1.(a) Draw the Isometric view assuming suitable data: fig.1

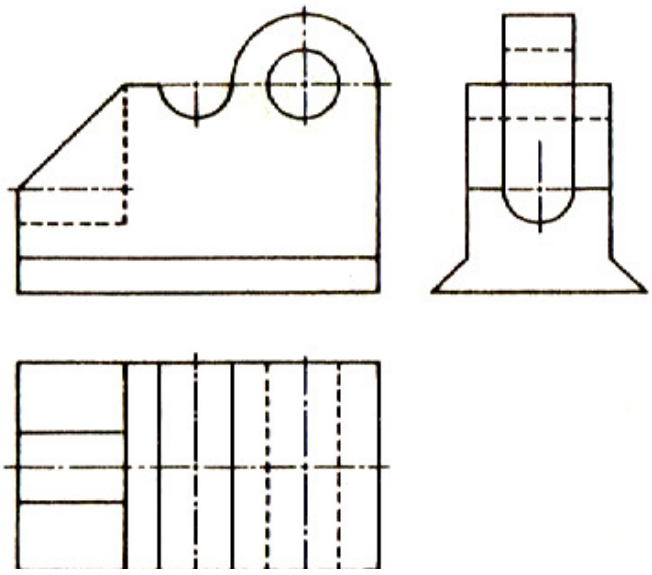

Fig.1

(b) A thin 30-60^0 set square has its longest edge in VP and inclined at 30^0 to HP. Its surface makes 45^0 with VP. Draw its projections.

[14+8]

PART-B

2.(a) An underpass of a flyover has a size of 270 m × 10 m × 10 m. It is represented on a model by a volume of 8 cu.cm. What is the R.F? Construct a diagonal scale to read up to 300 m. Mark the distances 199 m and 8 m on the scale.

(b) 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.

[8+8]

3.(a) Two pegs fixed on a wall are 4.5 m apart. The distance between the pegs measured parallel to the floor is 3.6 m. 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.

(b) A point P is 50 mm from both the reference planes. Draw its projections in all possible positions.

[8+8]

4. The guy ropes of two poles 12 m apart, are attached to a point 15 m above the ground on the corner of a building. The points of attachment on the poles are 7.5 m and 4.5 m above the ground and the ropes make 45^0 and 30^0 respectively with the ground. Draw the projections and find the distance of the poles from the building and the lengths of the guy ropes.

[16]

5. Draw the projections of a circle of 75 mm diameter having the end A of the diameter AB in the HP, the end B in the VP, and the surface inclined at 30^0 to the HP and at 60^0 to the VP.

[16]

6. Draw the projection of a cone, base 75mm diameter and axis 100 mm long and lying on the ground on one of its generators with the axis parallel to the VP.

[16]

7. Draw fig.2 (i) Front View (ii) Top View (iii) Side View

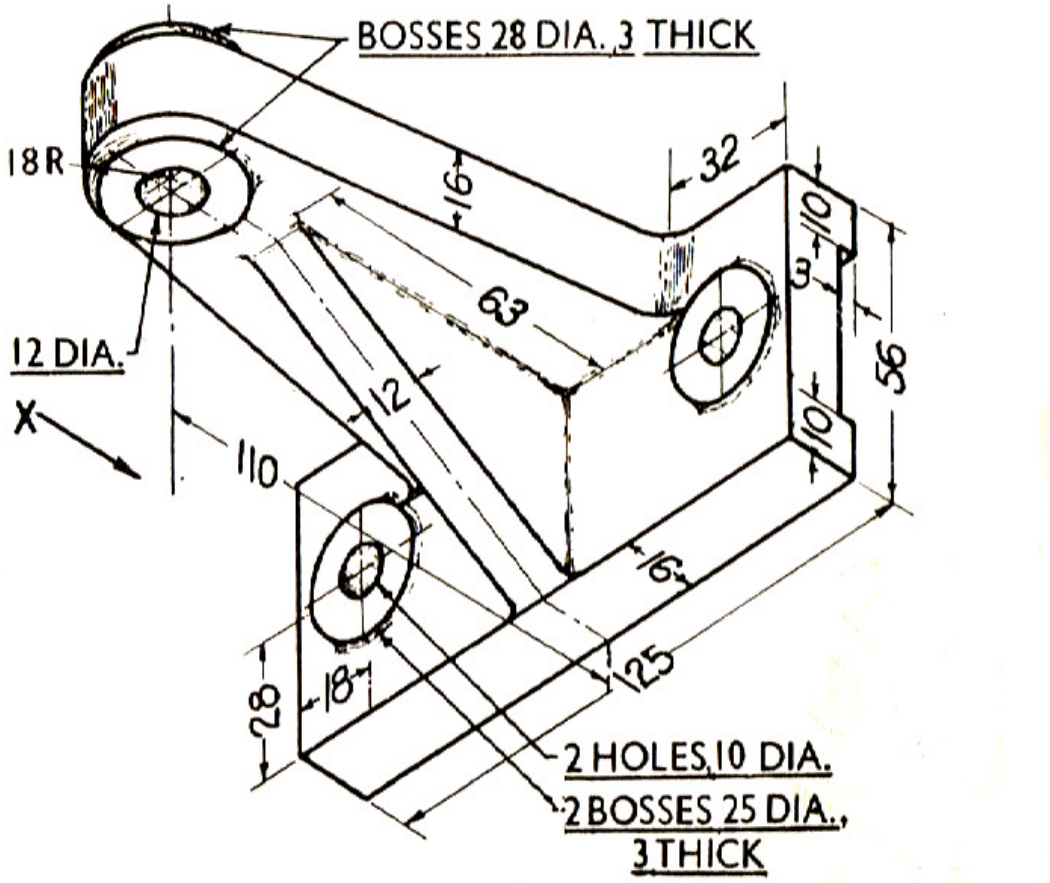

Fig.2

[16]

Subject Code: R13109/R13 **Set No - 4**

I B. Tech I Semester Regular/Supplementary Examinations Jan./Feb. - 2015

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**

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PART-A

1.(a) Draw fig.1 (i) Front View (ii) Top View (iii) Both Side Views

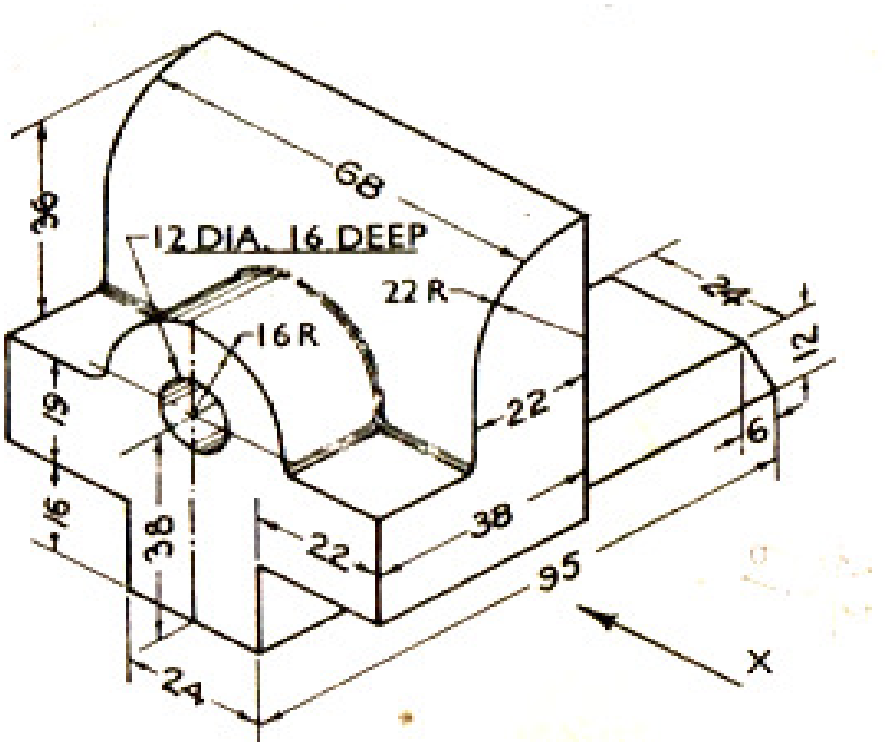

Fig.1

(b) A thin circular metal plate of 54mm diameter has a square hole of 27 mm side, cut centrally through it. Draw its projections when the plate is resting on HP with its surface inclined at 30^0 to HP and an edge of the square hole perpendicular to VP.

[14+8]

PART-B

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

(b) Construct a diagonal scale of RF= 1: 32,00,000 to show kilometers and long enough to measure upto 400 kilometers. Show distance of 257 km and 333 km on your scale.

[8+8]

3.(a) A point A is situated in the first quadrant. Its shortest distance from the intersection point of HP, VP and auxiliary plane is 60 mm and it is equidistant from the principal planes. Draw the projections of the points and determine its distance from the principal planes.

3.(b) The length of the top view of a line parallel to the VP and inclined at 45^0 to the HP is 5 cm. One end of the line is 1.2 cm above the HP and 2.5 cm in front of the VP. Draw the projections of the line and determine its true length.

[8+8]

4. The projectors of the ends of a line AB are 5 cm apart. The end A is 2 cm above the HP and 3 cm in front of the VP. The end B is 1 cm below the HP and 4 cm behind the VP. Determine the true length and traces of AB, and its inclinations with the two planes.

[16]

5. 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.

[16]

6. An 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.

[16]

7. Draw the Isometric view fig.2:

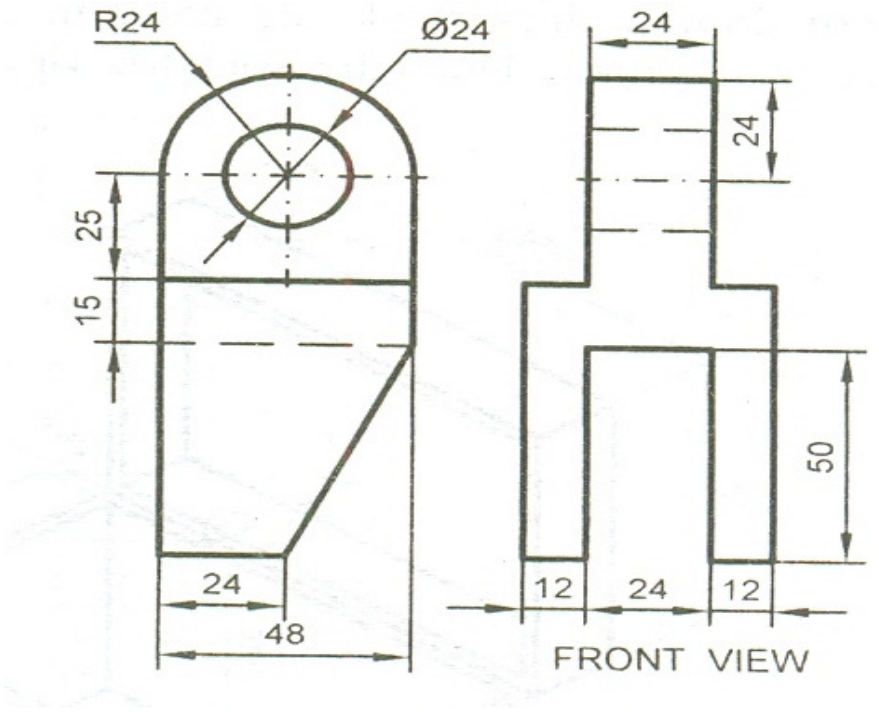

Fig.2

[16]