

ENGINEERING DRAWING

(Computer Science Engineering)

Time: 3 hours

Max. Marks: 70

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

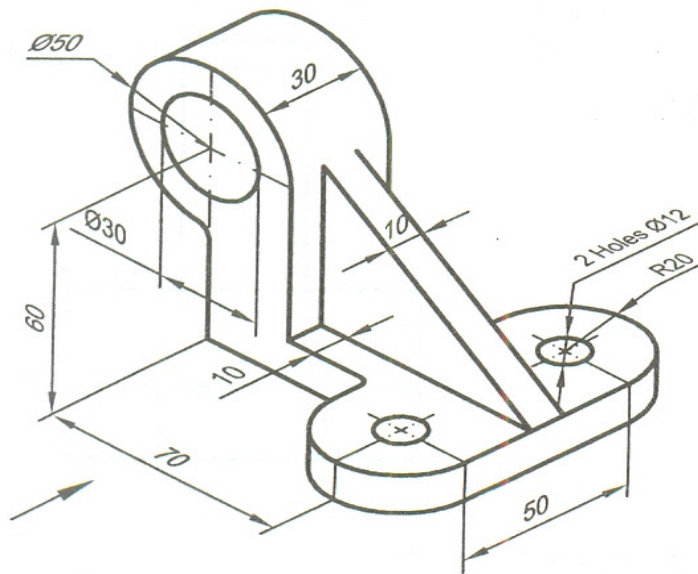
Answering the question in **Part-A** is Compulsory,

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

* * * * *

PART-A

- 1.(a) Draw (i) Front view (ii) Top view (iii) Right side view of the following pictorial projection.



- (b) The projections of a line AB are on the same projector. A is 10mm above the HP and 20mm in front of the VP. B is 35mm below the HP and 25 mm behind the VP. Draw the projections of the line AB and determine its true length, inclinations with the HP and the VP?

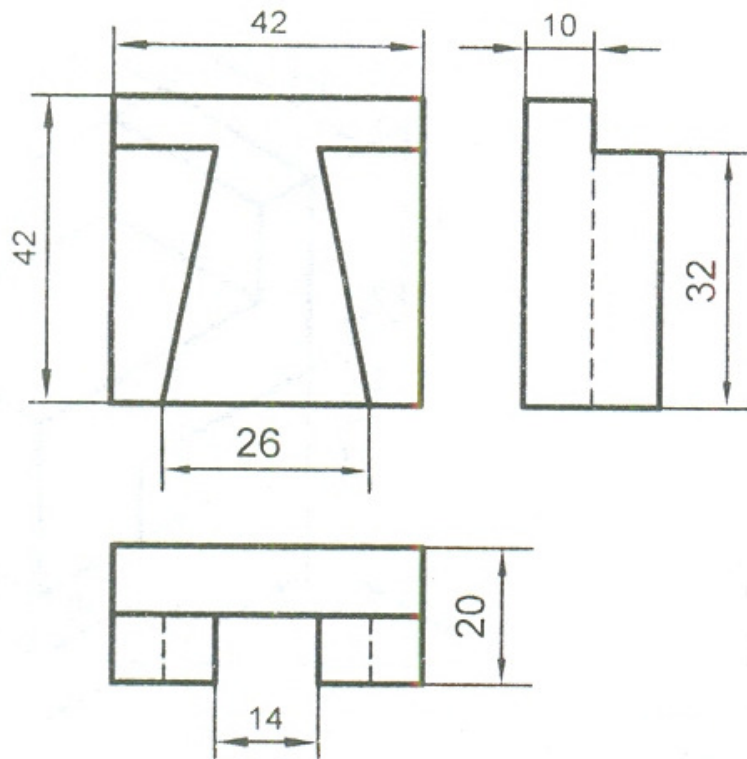
[16+6]

PART-B

- 2.(a) Construct an ellipse of 120 mm major axis and 80 mm minor axis using concentric circle methods?
- (b) Draw an octagon given the length of side 25 mm. using general method?
- [10+6]
- 3.(a) A line EF 40mm long is in the VP and inclined to the HP. The top view measures 30mm. The end E is 10mm above the HP. Draw the projections of the line. Determine its inclination with the HP?
- (b) A line RS 40mm long is parallel to both the planes. It is 20 mm above the HP and 15mm in front of the VP. Draw the projections of the line?

[10+6]

4. The front view of a line AB is 50mm long and it makes an angle of 35° with xy. The point A lies 10mm above the HP and 25mm behind the VP. The difference between the distance of A and B from the VP is 25mm. The line AB is in second quadrant. Draw the projections of the line; determine its true length and inclinations with the HP and the VP? [16]
5. An equilateral triangle ABC having side length as 50 mm is suspended from a point O on the side AB 15mm from A in such a way that the plane of the triangle makes an angle of 60° with the VP. The point O is 20 mm below the HP and 40 mm behind the VP. Draw the projections of the triangle? [16]
6. Draw the top and front view of the cone of base diameter 46mm and height 65mm lying with one of its generators on the HP. The axis is parallel to the VP? [16]
7. Draw the isometric view of orthographic drawing shown below ? [16]



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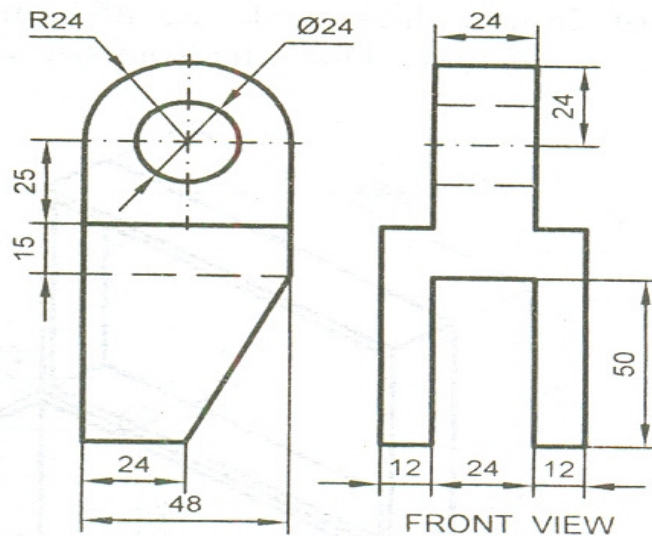
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PART-A

- 1.(a) Draw the isometric view of the following orthographic views ?



- (b) A square prism of side of base 30 mm and axis 55 mm long lies on one of its generator in the HP and its faces equally inclined to the HP. Draw its projections when its axis is inclined at an angle of 60° to the VP?

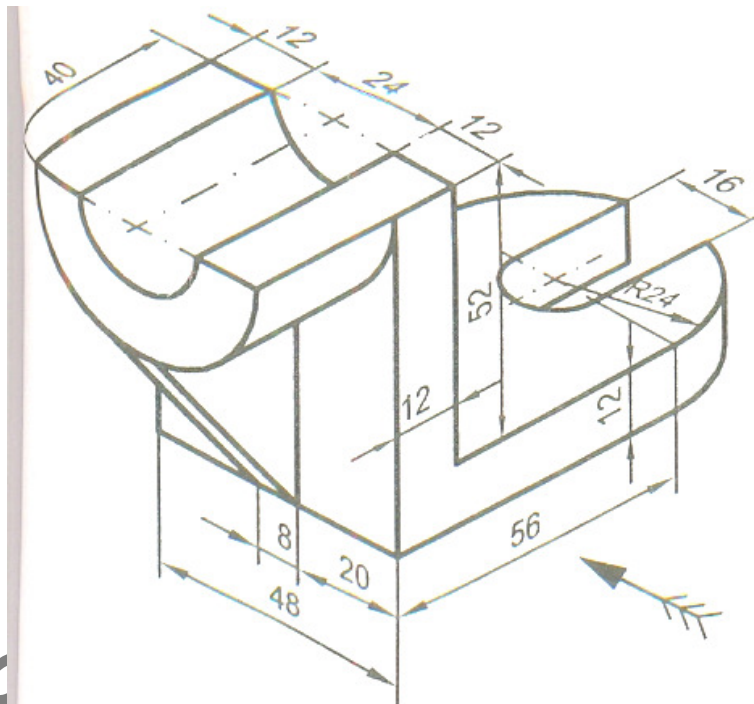
[16+6]

PART-B

- 2.(a) Construct a regular hexagonal of side 25mm when one of its side is horizontal?
 (b) A truck is moving at the rate of 1.2 km per min. Construct a diagonal scale with RF value of $1/25000$, showing minutes and seconds. Mark the distance moved by the truck in 4 minutes and 27 seconds?
- 3.(a) Draw the projections of the following, keeping the distance between the projectors as 25mm on the same reference line:
 (i) A- 25mm above HP and 50mm behind the VP
 (ii) B- 40 mm below HP and 45mm in front of the VP
 (iii) C- on HP and 25mm behind VP
 (b) A line CD is parallel to the VP and inclined at 45° to the HP. C is in the HP and 25 mm in front of the VP. Top view is 50mm long. Find its true length?

[8+8]

4. A line AB inclined 30° to the VP, has its ends 50mm and 20mm above the HP. The length of its front view is 65mm 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. The circular plate of negligible thickness and 50 mm diameter appears as an ellipse in the front view, having its major axis 50mm long and minor axis 30 mm long. Draw its top view when the major axis of the ellipse is horizontal? [16]
6. A equilateral triangle of 60mm side represents the front view of a cone standing on its base. It is tilted until its axis makes 30° with the HP and top view of the axis is parallel to the VP in this position. Draw the projections of cone? [16]
7. Draw (i) Front view (ii) Top view (iii) Side view of the following pictorial projection? [16]



[16]

ENGINEERING DRAWING

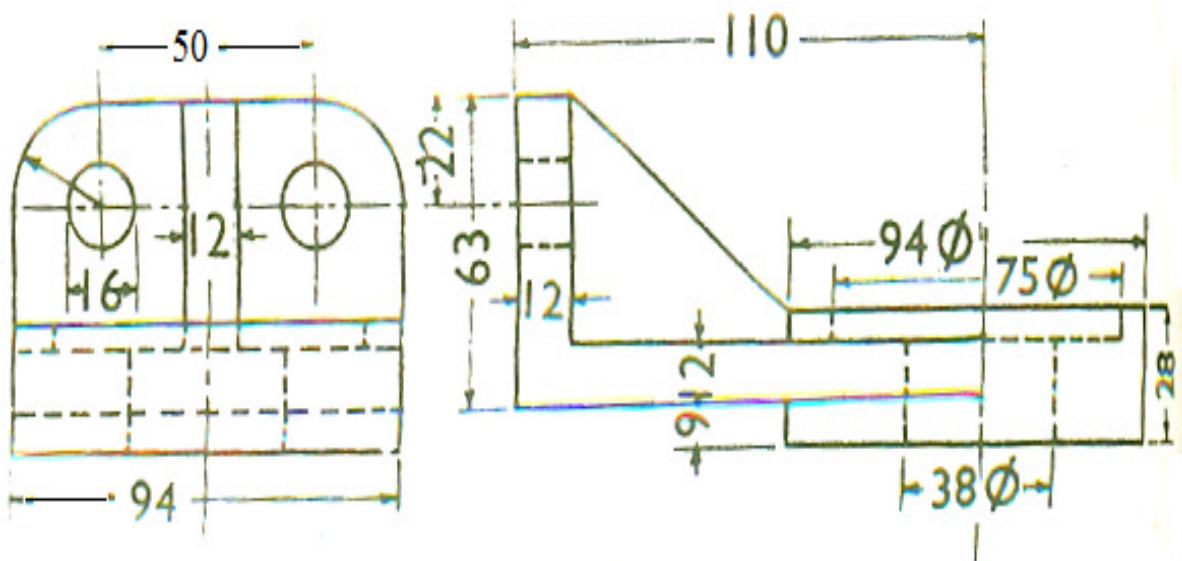
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PART-A

- 1.(a) Draw the isometric view of the following orthographic projections?



- (b) A point A is 15mm above the HP and 20mm in front of the VP. Another point B is 25 mm behind the VP and 40mm below the HP. Draw the projections of A and B, keeping the distance between the projectors equal to 90mm. Draw straight lines joining (i) the top views (ii) the front views.

[16+6]

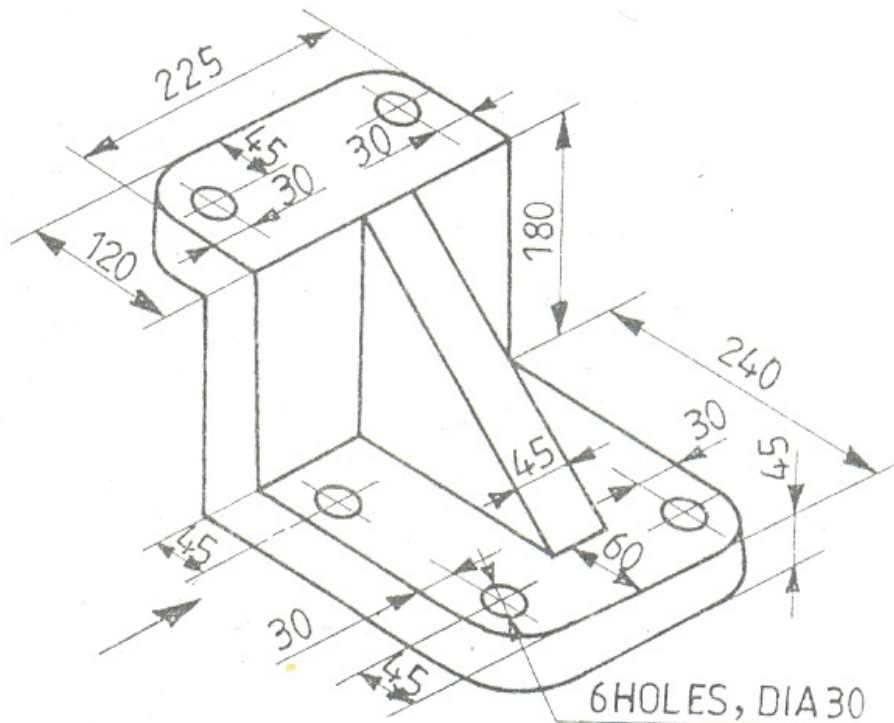
PART-B

- 2.(a) Inscribe a regular hexagon in a circle of diameter 80 mm.?
 (b) Construct an ellipse of 120 mm major axis and 80 mm minor axis using arcs of circle method?
- 3.(a) A point A is 20mm above the HP and in the first quadrant. Its shortest distance from the reference line XY is 40mm. Draw the projections of the point and determine its distance from the VP.
 (b) Draw the projections of line LM 40 mm long, parallel to the HP and inclined at 30° to the VP. The L is 20 mm above the HP and 15 mm in front of the VP. Find its traces.

[6+10]

[8+8]

4. A line AB, 65mm long, has its end A 20 mm above the HP and 25 mm in front of the VP. The end B is 40mm above the HP and 65mm in front of the VP. Draw the projections of AB and show its inclinations with the HP and the VP? [16]
5. A 30° - 60° set square has its shortest side 50 mm long and is in the HP. The top view of the set-square is an isosceles triangle. The hypotenuse of the set-square is inclined at an angle of 45° with the VP. Draw its projections Determine its inclination with the HP? [16]
6. Draw the projections of a cylinder, base 30mm diameter and axis 50mm long, resting with a point on the periphery of its base circle on the HP such that the axis is making an angle of 30° with the HP and parallel to the VP? [16]
7. Draw (i) Front view (ii) Top view of the following pictorial view? [16]



[16]

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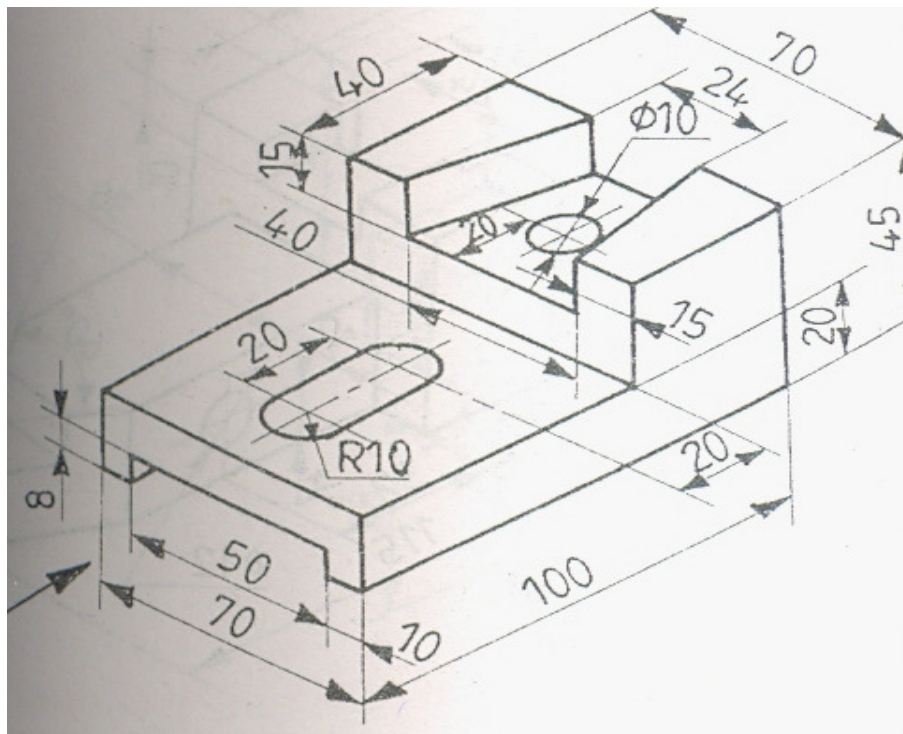
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PART-A

- 1.(a) Draw (i) Front view (ii) Top view (iii) Right side view of the pictorial view shown below?



- (b) A mirror of size 560mm× 320 mm is fixed on a wall on one of its shorter edges. The mirror is so fixed that it appears as a square in the front view. Draw the projections of the mirror Find its inclinations with the wall and the ground?

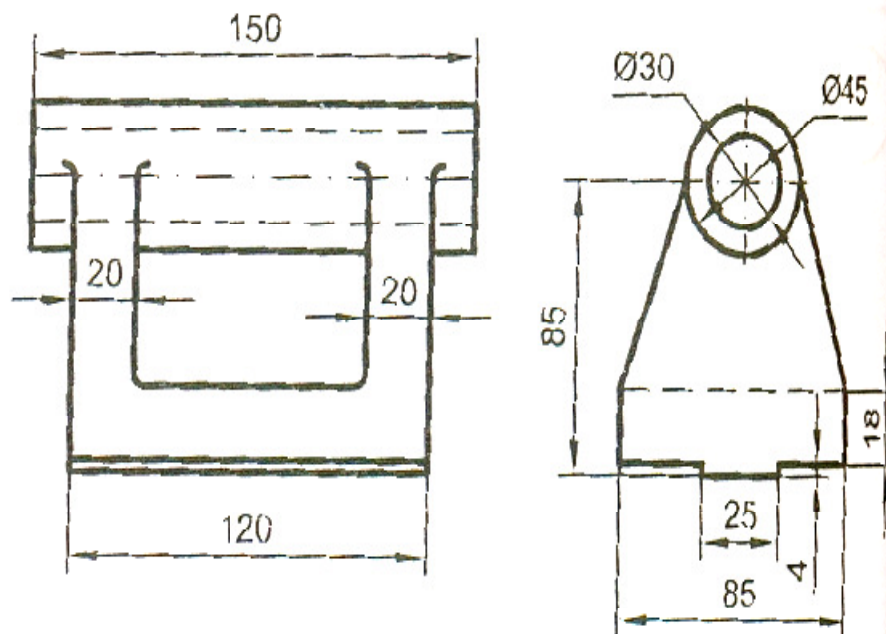
[16+6]

PART-B

- 2.(a) Construct a Vernier scale of RF= 1: 25 to show decimeters, centimeters and millimeters. The scale should be capable of reading up to 4 decimeters. Mark on your scale the following distances: (a) 3.23 dm?
- (b) Construct a hexagon of side 30 mm when one side is vertical?

[10+6]

- 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?
- (b) Mark the projections of the following points on a common reference line, keeping the projectors 35 mm apart.
- 25 mm above the HP and 40 mm behind the VP
 - 20 mm above the HP and on the VP
 - 30 mm below the HP and 45 mm in front of the VP
- [8+8]
4. A line PQ 100mm long is inclined at 30° to the HP and at 45° to the VP. Its midpoint is in the VP and 20mm above the HP. Draw its projections, if its end P is in the third quadrant and Q is in the first quadrant.
- [16]
5. ABCD is a symmetrical trapezium with AB= 40mm and CD=64mm as its parallel sides are 50 mm height. The plane has its side AB in the VP and CD 25 mm away from it. The front view of BC makes an angle of 30° with the HP. Obtain the projections of the plane. Find its angle with the VP?
- [16]
6. Draw the projections of a pentagonal prism of base side 30mm and axis length 60mm rests on the HP on one of the base corners with the base edges containing it being equally inclined to the HP. The axis is inclined at 45° to the HP and parallel to the VP?
- [16]
7. Draw the isometric view of the following orthographic views?



[16]