

ENGINEERING DRAWING

(Mechanical 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 the isometric view of Fig.1

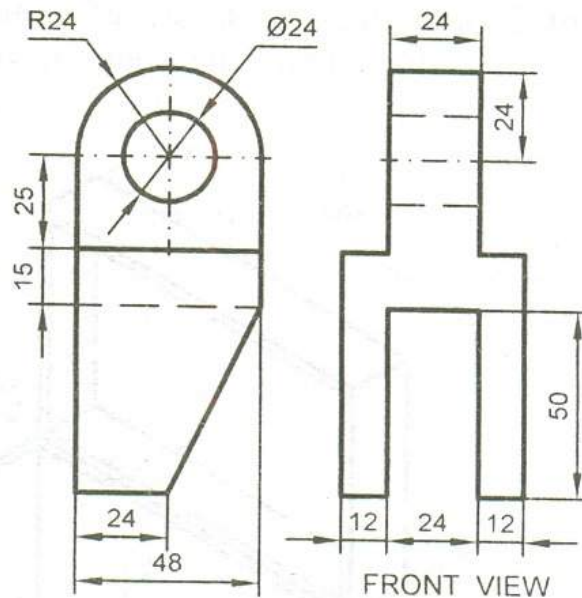


Fig.1

(b) A square prism, side of base 40mm and axis 60mm long, rests with one of its base corners on HP. Its base makes an angle of 45° to HP and its axis is parallel to VP. Draw its projections.

[12+10]

PART-B

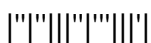
2. The major axis of an ellipse is 150mm long and the minor axis is 100mm long. Find the foci and draw the ellipse by arcs of circles method. Draw a tangent to the ellipse at a point on it 25mm above the major axis.

[16]

3.(a) A vertical line AB, 75mm long, has its end A in the HP and 25mm in front of the VP. A line AC, 100mm long, is in the HP and parallel to the VP. Draw the projections of the line joining B and C, and determine its inclination with the HP.

(b) A point 30mm above xy line is the plan view of two points P and Q. The elevation of P is 45mm above the HP while that of the point Q is 35mm below the HP. Draw the projections of the points and state their position with reference to the principle planes and the quadrant in which they lie.

[8+8]



4. A line AB, 65mm long, has its end A 20mm above HP and 25mm in front of VP. End B is 40mm above HP and 65mm in front of VP. Draw the projections of AB. Find its inclinations with HP and VP. [16]
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° to the VP and one of the sides of the triangle is inclined at 45° to the HP. [16]
6. Draw the projections of a cylinder 75mm diameter and 100mm long, lying on the ground with its axis inclined at 30° to the VP and parallel to the ground. [16]
7. Draw (i) Front View (ii) Side View from the left (iii) Top View of Fig.2 [16]

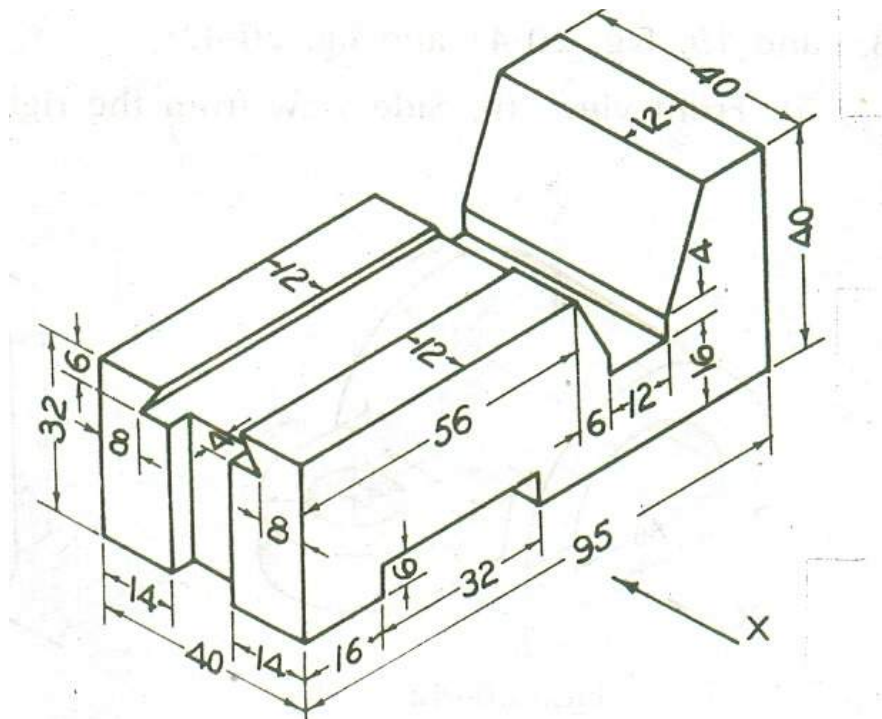
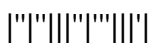


Fig.2

[16]



Subject Code: R13209/R13

Set No - 2

I B. Tech II Semester Supplementary Examinations Feb. - 2015

ENGINEERING DRAWING

(Mechanical Engineering)

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PART-A

- 1.(a) Draw (i) Front View (ii) Top View (iii) Side View from the right of Fig.1

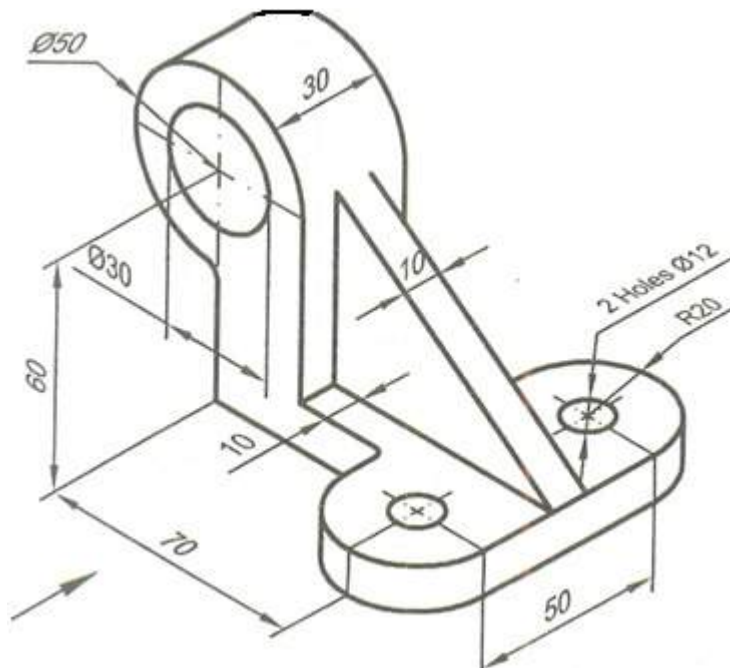


Fig.1

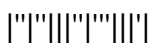
- (b) A cube of edges 40mm side is hung by a string attached to one of its corners. Draw its projections when two of its edges containing the corner from which it is hung are equally inclined to VP.

[12+10]

PART-B

2. Construct a regular polygon of any number of sides, given the length of its sides equal to 25mm. [16]
- 3.(a) Two pegs fixed on a wall are 4.5metres apart. The distance between the pegs measured parallel to the floor is 3.6 metres. If one peg is 1.5 metres above the floor, find the height of the second peg and the inclination of the line joining the two pegs, with the floor.
- (b) Draw the projections of a line CD 50mm long, parallel to HP and inclined to VP. The end C is 10mm in front of VP and D is 30mm in front of VP. The line is 15mm above HP.

[8+8]



- 4. The top view of a line is 65mm long and is inclined at 30° to the reference line. One end is 20mm above HP and 10mm in front of VP. The other end is 60mm above HP and is in front of VP. Draw the projections and find the true length of the line and its true inclinations to HP and VP. [16]
- 5. A regular hexagon of 40mm side has corner in the HP. Its surface is inclined at 45° to the HP and the top view of the diagonal through the corner which is in the HP makes an angle of 60° with the VP. Draw its projections. [16]
- 6. A square pyramid, base 40mm side and axis 90mm long, has a triangular face on the ground and the vertical plane containing the axis makes an angle of 45° [16]
- 7. Draw the isometric view of Fig.2 [16]

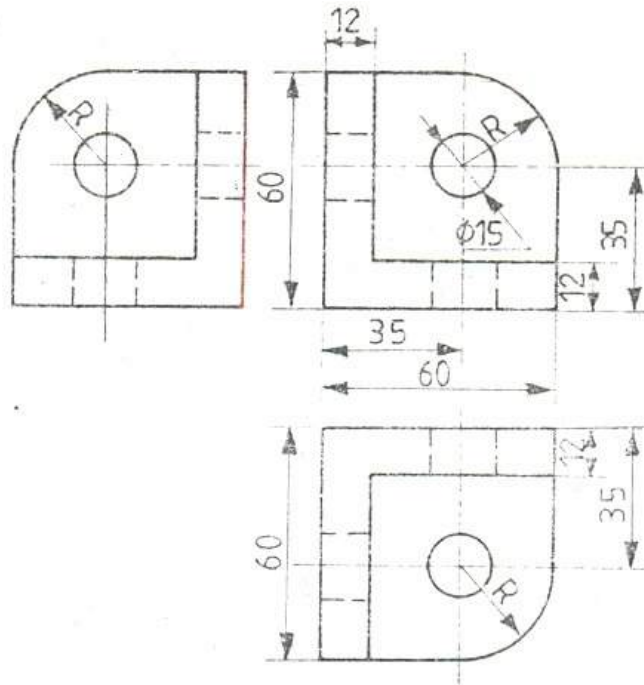


Fig.2

[16]



ENGINEERING DRAWING

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PART-A

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

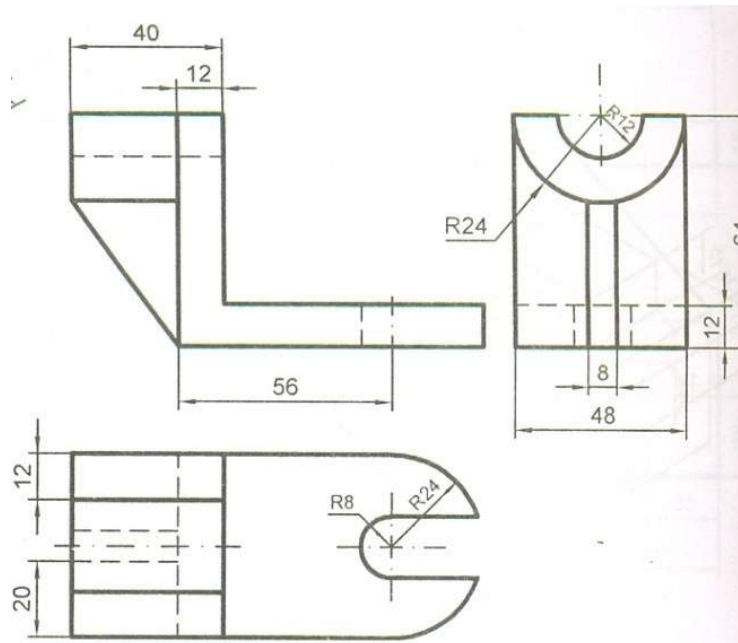


Fig.1

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

[12+10]

PART-B

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

(b) Draw an Octagon given the length of side 25mm

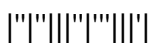
[8+8]

3.(a) Draw the projections of a 75mm long straight line, in the following positions:

(i) Inclined at 45° to the VP; in the HP and its one end in the VP

(ii) Perpendicular to the HP, 20mm in front of the VP and its one end 15mm above the HP

(iii) Parallel to and 30mm above the HP and in the VP



- 3.(b) A line CD is parallel to VP and inclined at 40° to HP. C is in HP and 25mm in front of VP. Top view is 50mm long. Find its true length. [8+8]
- 4. A line AB 100mm long has its front view inclined at an angle of 45° to the reference line separating the views. The end A is in VP and 25mm above HP. The length of the front view is 60mm. Draw the top view of the line and find the true inclinations of the line with HP and VP. [16]
- 5. Draw the projections of a regular pentagon of 40mm side having its surface inclined at 30° to the HP and a side parallel to the HP and inclined at an angle of 60° to the VP. [16]
- 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° to the ground and parallel to the VP. Draw its projections. [16]
- 7. Draw (i) Front View (ii) Side View from left (iii) Top View of Fig.2 [16]

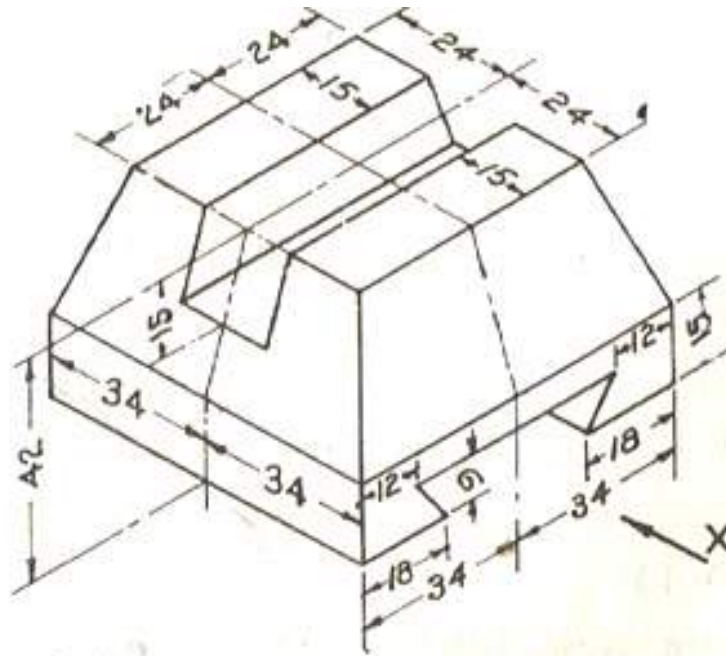
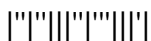


Fig.2

[16]



Subject Code: R13209/R13

Set No - 4

I B. Tech II Semester Supplementary Examinations Feb. - 2015

ENGINEERING DRAWING

(Mechanical Engineering)

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PART-A

- 1.(a) Draw (i) Front View (ii) Left Hand Side View (iii) Plan View of Fig.1

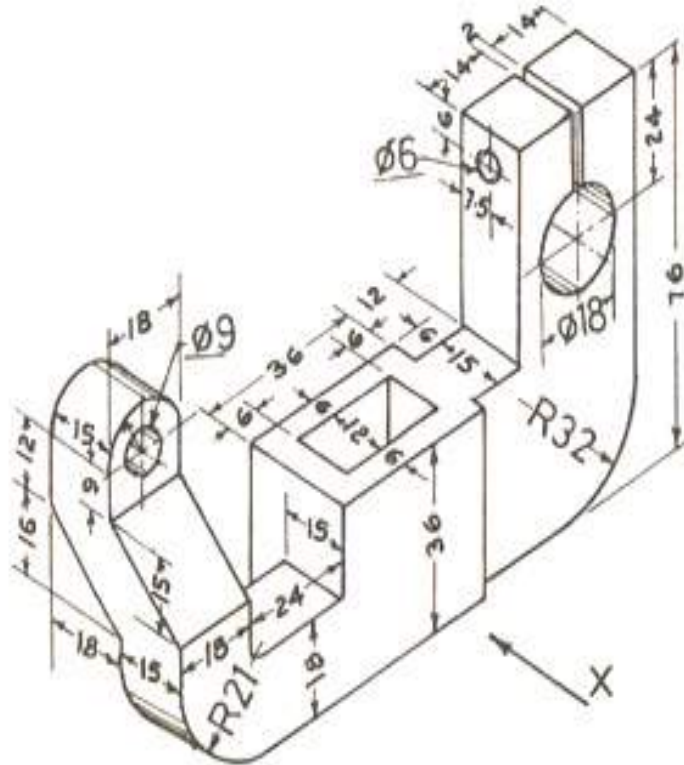


Fig.1

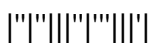
- (b) A right regular triangular pyramid, base 35mm side and axis 60mm rests with one of its inclined lateral edges on HP such that the two triangular faces containing the inclined one make equal inclinations with HP. The projections of the axis on the HP are parallel to VP. Draw the projections.

[12+10]

PART-B

- 2.(a) Construct a Vernier scale of RF=1/80 to read inches and to measure up to 15 yards.
(b) Inscribe an ellipse in a parallelogram having sides 150mm and 10mm long and an included angle of 120° .

[8+8]



- 3.(a) Draw the projections of a 75mm long straight line, in the following positions:
- (i) Inclined at 30° to the HP; and its one end 20mm above it; parallel to and 30mm in front of the VP
 - (ii) Perpendicular to the VP, 20mm 25mm above the HP and its one end in the VP
 - (iii) Parallel to and 40mm in front of the VP and in the HP
- (b) A line EF 60mm long is in the 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. [8+8]
4. A line AB is 75mm long. A is 50mm in front of VP and 15mm above HP. B is 15mm in front of VP and is above HP. Top view of AB is 50mm long. Find the front view length and the true inclinations. [16]
5. Draw the projections of a rhombus having diagonals 125mm and 50mm long; the smaller diagonal of which is parallel to both the principle planes while the other is inclined at 30° to the HP. [16]
6. Draw the projection 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° to the VP. [16]
7. Draw the isometric view of Fig.2 [16]

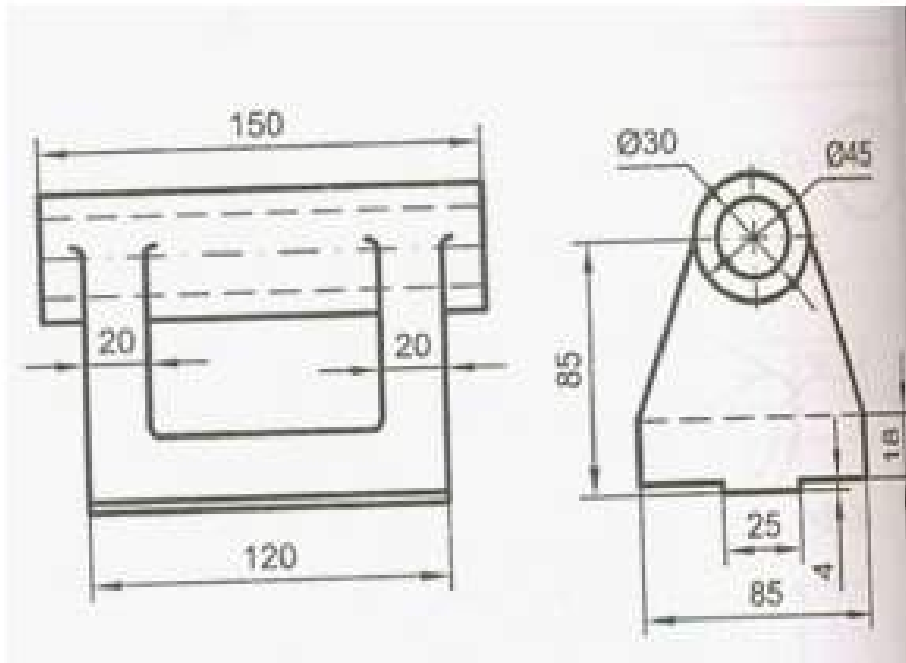


Fig.2

[16]

