Engineering Graphics Question Bank

UNIT – I

1) a. Construct a scale of 1:5 to show decimeters and centimeters and long enough to measure upto 1 meter. Show a distance of 6.3 dm on it.
   b. Construct a diagonal scale showing yards, feet and inches in which 2 inches long line represents 1.25 yards and is long enough to measure upto 5 yards. Find RF and mark a distance of 4 yards 2 feet and 8 inches.
2) Construct an ellipse, when the distance of the focus from the directrix is equal to 50mm and eccentricity 2/3. Also draw a normal and a tangent to the curve at a point 70mm from the focus.
3) Construct an ellipse having major axis of 110 mm long and 70 mm as minor axis by concentric circles method
4) A circle of 60 mm diameter rolls on the circumference of another circle of 180 mm diameter and outside it. Trace the locus of point on the circumference of the rolling circle for one completer revolutioncounter clock-wise. Draw the tangent and normal to the curve at point 125 mm from the center of the directing circle.
5) Construct a hypocycloid, rolling circle 60mm diameter and directing circle 180 mm diameter. Draw a tangent to it a point 50mm from the Centre of the directing circle.

UNIT – II

1) a. Draw the projection of the following points:
   i. A, in H.P and 20 mm behind V.P
   ii. B, 40 mm above H.P and 25 mm in front of V.P
   iii. C, in the V.P and 40 mm above H.P
   iv. D, 25 mm below H.P and 25 mm behind the V.P
   b. A straight line PQ has its end P 20 mm above H.P. and 30 mm in front of V.P. and the end Q is 80 mm above the H.P. and 70 mm infront of the V.P. If the end projectors are 60 mm apart, draw the projectis of the line. Determine its rue length and true inclination with the reference plane.
2. The diagonals of a rhombus measure 100 mm and 40 mm. The longer diagonal is inclined at 40^0 to the H.P. with an end in H.P. and smaller diagonal is parallel to both the principal planes. Draw its projection.
3. A thin circular plate of diameter 60 mm appears in the front view as an ellipse of major and minor axes 60 mm and 40 mm respectively. Draw its projection when one of the diameters is parallel to both the reference planes.
4. A semi circular plane of 70 mm has its straight edge on the V.P. and inclined at 30^0 to the H.P. Draw the projection of the plane when its surface is inclined at 45^0 to the V.P.
5. A hexagonal plane of side 30 mm has an edge in the V.P. The surface of the pane is inclined at 45^0 to the V.P. and the edge on which it rests is inclined at 30^0 to the H.P. Draw its projection.

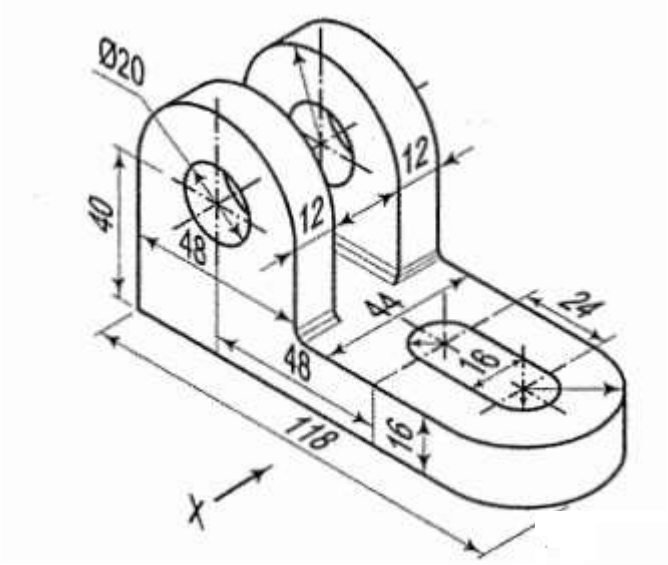
UNIT – III

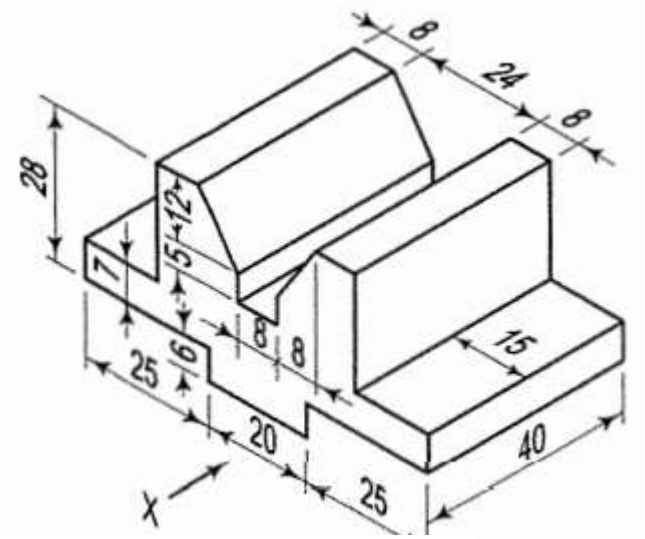
1. A pentagonal prism of base side 30 mm and height 60 mm rests on one of its base side on the H.P. inclined at 30^0 to the V.P. Its axis is inclined at 45^0 to the H.P. Draw its projection.
2. A cylinder of base diameter 50 mm and axis 65 mm rests on a point of its base circle on the H.P. Draw its projections when the axis is inclined at 30^0 to the H.P. and top view of the axis is perpendicular to the V.P.
3. Draw the projections of a cube of edge 40 mm resting on one of its corner on the H.P. with a solid diagonal perpendicular to the V.P.
4. A hexagonal prism of base edge 30 mm and axis 70 mm has an edge of its base in the V.P. and inclined at 60^0 to the H.P. Draw its projections, when the edge of the other base farthest away from V.P. is at a distance of 85 mm from V.P.
5. A hexagonal pyramid of base side 30 mm and axis 60mm has an edge of its base on the ground inclined at 45^0 to the V.P. and the axis is inclined at 30^0 to the H.P. Draw its projection.

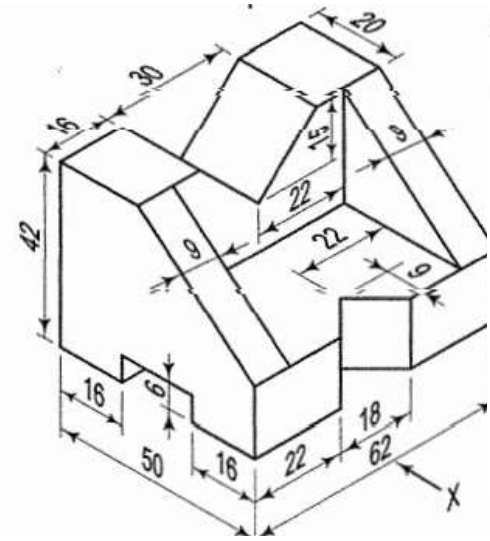
UNIT- IV

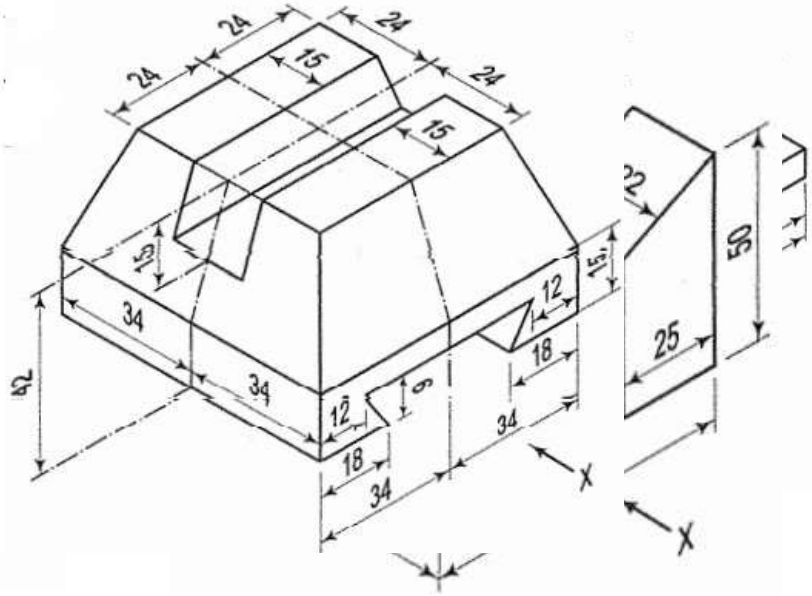
1. A pentagonal prism of base side 30 mm and axis 70 mm is resting on its base on the H.P. with a rectangular face parallel to the V.P. It is cut by an auxiliary inclined plane whose VT is inclined at 45^0 to the reference line and passes through the mid point of the axis. Draw the development of the lateral surface of the truncated prism.
2. A hexagonal prism of base side 30 mm and axis 70 mm is resting on its base on the H.P. with a side of a base inclined at 45^0 to the V.P. It is cut by an auxiliary inclined plane inclined at 45^0 to the H.P. and passes through 15mm below the top end of the axis. Draw the development of the lateral surface of the truncated prism.
3. A Hexagonal prism of base side 30 mm and height 70 mm is resting on its base on the H.P. with a side of the base perpendicular to the V.P. The prism has a cylindrical hole of diameter 40 mm, drilled centrally such that the axis of hole is perpendicular to the V.P. draw the dvelopment of the lateral surface of the prism.
4. A cone of base diameter 50 mm and axis 60 mm is resting on its base on the H.P. A section plane perpendicular to V.P. and inclined at 45^0 to H.P., bisect the axis of the cone. Draw the development of its lateral surface.
5. A Square Pyramid of base side 40 mm and axis 60 mm is resting on its base on the H.P. such that all the sides of the base are equally inclined to the V.P. It is cut by a section plane perpendicular to the V.P. and incline at 60^0 to the H.P. bisecting the axis. Draw the development of its lateral surface.

ORTHOGRAPHIC









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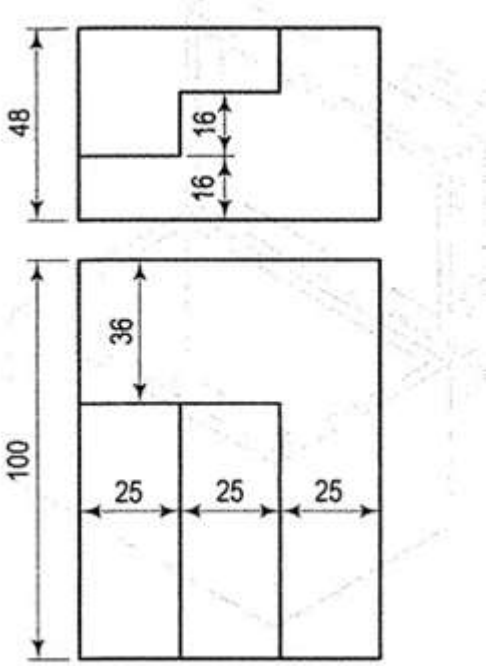

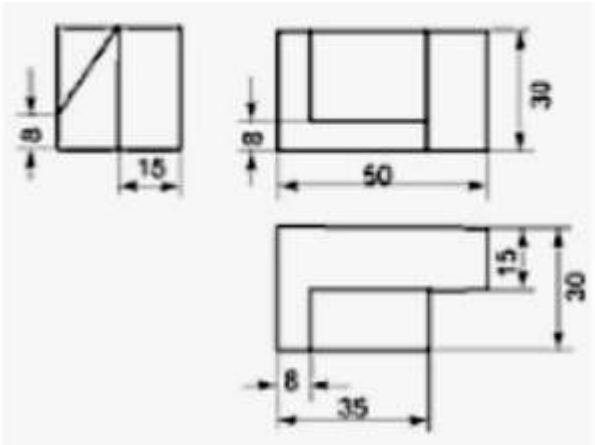

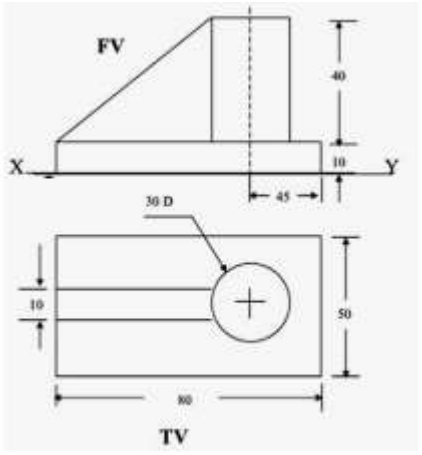
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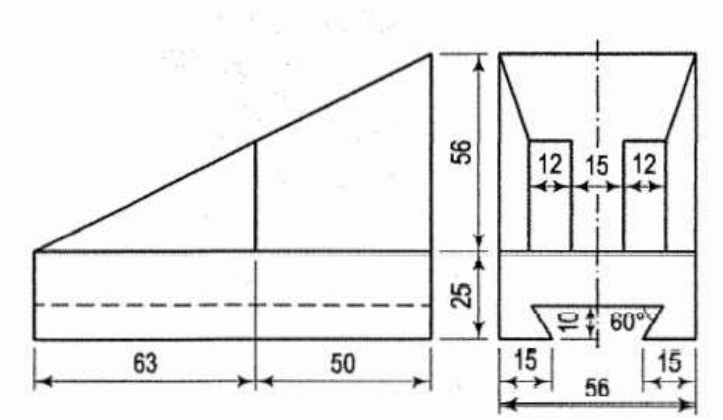
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