Uka Tarsadia University (Diwaliba Polytechnic)
Diploma in Mechanical Engineering
Assignment (Engineering Drawing)

Unit 1 - Engineering drawing aids, planning, layout and scales

Two marks

1. Convert the following units:
   1) 1 Kilometer = _____ Decametre.
   2) 1 meter = _____ Centimeter.
2. Write down benefits of set square.
3. If 1 cm represents 5 km & maximum length is 15 km, then what will be the length of scale?
4. Convert the following units:
   (a) 1 Meter = _____ Millimetre.
   (b) 1 kilometer = _____ Decameter.
5. Write down the benefits of a mini drafter.
6. If 1 cm represents 3 km & maximum length is 15 km, then what will be the length of scale?
7. Discuss the statement: Engineering graphics is the language of engineers.
8. Write down the advantages of a mini drafter.
9. If 1 cm represents 4 km & maximum length is 16 km, then what will be the length of scale?
10. Enlist different drawing instruments used in engineering drawing.
11. Convert the following units:
    A kilometer = _____ Decameter
    A hectometer = _____ Centimeter
12. Write the equation of Representative Fraction (R.F) and length of scale.
13. What are the uses of set-squares?
14. Write down any two differences between a plain scale and diagonal scale.
15. Enlist the scale based on R.F. and also give the values of R.F.
16. What is French Curve? State Its uses.
17. If 10 cm represents 10 km and maximum distance is 12 km, then find R.F. and length of scale?
18. State whether the following statements are true or false:
    (a) R.F. = 1/2 Indicates reduced scale. [True/ False]
    (b) The least count of vernier scale Is 0.0001. [True/ False]
19. Why the margins are kept in engineering drawing sheets?
20. Convert the following units:
(a) Meter = _____ Centimeter
(b) Decimeter = _____Meter
21. Explain uses of full scale, enlarge scale and reduced scale.
22. If 1 cm represents 10 km and maximum distance is 20 km, then find R.F. and length of scale.
23. Why title block is required in the sheet? What details it should have?

Four marks

1. Explain the equation of Representative Fraction (R.F) and length of scale.
2. Explain the difference between plain scale and diagonal scale.
3. Why scale is required for preparing drawing?

4. On plan of residential complex, a line 8 cm long represents a distance of 4 m. Construct a diagonal scale for plan to read up to 5 m. Show meters, decimeters & centimeters on it. Indicate on your scale length 3.33 m.
5. Draw a vernier scale of R.F=1/25 to read centimeter up to 4 m and on it show length 0.82 m.
6. Construct a plain scale to show kilometer and hectometer. When 5 cm is equal to 2 km and long enough to measure up to 4 km. Find R.F and show a distance of 2 km and 4 hm on scale.
7. Consruct a scale of 1:40 to read meters and decimeters and long enough to measure up to 6 m mark on it a distance of 4.7m.
8. The distance between Delhi and Agra is 200 km in reality. It is represented by 5 cm long line. Find its R.F. Draw a diagonal scale to show single kilometer and maximum 600 km and indicate 222 km on it.
9. Enlist the different drawing instruments used in engineering drawing and explain use of any two instruments.
10. Draw diagonal scale R.F. = 1/25 to read meters, decimeter and centimeter. The scale must be long enough to read 4 m. Mark off on this scale distance of 2.34 m.
11. Construct a vernier scale to read meter, decimeter and centimeter and long enough to measure up to 4 m. R.F. of the scale is 1/20. Mark on your scale a distance of 2.28 m.
12. Construct a plain scale to show kilometer and hectometer. When 2.5 cm is equal to 1 km and long enough to measure up to 6 km, find R.F. and show a distance of 5 km and 4 hm on scale.
13. In a map, a 36 km distance is shown by a 45 cm long line. Calculate the R.F. and construct a plain scale to read kilometers and hectometers, for max. 12 km. Show a distance of 8.3 km on it.
14. Draw a diagonal scale to represent 6 km by 1 cm to show maximum distance of 60 km. Indicate 42.7 km on scale.
15. Draw a vernier scale of R.F=1/25 to read centimeter up to 3 m and show length 0.91 m on that scale.
16. On the map of gujarat, 1 cm represents 5 km. Construct a plain scale long enough to measure a distance between Ahmadabad and Baroda. Indicate on it a distance between Ahmadabad and Anand.
    1) Ahmadabad to Baroda is 100 Kms.
    2) Ahmadabad to Anand is 65 Kms.
17. In the plan of shopping complex, a line 10 cm long represents a distance of 5 m. Construct a diagonal scale for plan to read up to 6 m. Show meters, decimeters & centimeters on it. Indicate length of 2.26 m on the scale.
18. The distance between two points is 10 cm. The real distance between them is 3 meter. Draw the vernier scale to represent meter & centimeter. Scale is to represent maximum up to 6 meter. Show the distance of 4.25 m on it.
19. Construct a plain scale of R.F. 1:30 and show decimeter and centimeters and read up to 3 m. Show a length of 2.8 decimeters on it.
20. The distance between two pints is 400 km but on map it represented by 5 cm long line. Find its R.F. Draw a diagonal scale to show single kilometer and maximum distance of 800 km and indicate distance of 756 km on the scale.

21. Construct vernier scale of 1:50000, showing kilometers, hectometers and decameters and maximum distance to be measure 4 km. Mark distances of 2.22 km on the scale.
22. On the map of gujarat, 1 cm represents 50 km. Construct a plain scale long enough to measure a maximum distance between Surat and Ahmedabad which is 300 Km. Indicate on it a distance of 156 kms from Surat.
23. Construct vernier scale of RF = 1:100000, showing kilometers, hectometers and decameters and maximum distance to be measure 8 km. Mark distances of 3.66 km on the scale.
24. The distance between two points is 600 km but on map it represented by 6 cm long line. Find its R.F. Draw a diagonal scale to show kilometer and maximum distance of 1000 km and indicate distance of 828 km on the scale.

UNIT 2 - LINES, LETTERING, DIMENSIONING AND GEOMETRIC CONSTRUCTION

Two marks

1. Draw a perpendicular bisector of line AB = 50 mm
2. Give the difference between aligned and unidirectional system of dimensioning.
3. Draw a hexagon of its side AB = 30 mm with help of special method.
4. Draw a 60 mm line and divide into 7 parts.
5. Bisect an angle of 80° with the aid of the compass
6. Draw a perpendicular bisector of line AB = 50 mm
7. How the diameters and radii are designated?
8. To draw a parallel line through a given point and parallel to a given straight line
9. Enlist the types of dimensioning systems used in engineering drawing.
10. Bisect an angle of 60° with the aid of the compass.
11. Divide a 65 mm line into 7 equal parts.
12. To draw a perpendicular bisector of a 45 mm line
13. To draw an angle of 90° with the aid of the compass
14. What are applications of chain thin double dashed line?
15. To construct an equivalent triangle of 35 mm length.
16. Types of lines and its applications.
17. Draw an angle of 60° by using the compass and bisect the angle.
18. Construct an equivalent triangle of 25 mm length.
19. Draw a perpendicular bisector of a 40 mm line.

Five marks

1. Construct the polygons (at list any three) of side 40 mm using universal circle method.
2. Draw a pentagon with help of special method having side of 30 mm.
3. Enlist the types of lines with their application.
4. Draw a pentagon of 50 mm side using the universal circle method.
5. Bisect and trisect an angle of 90° using compass.

6. Discuss the method of dividing a line into any number of equal parts with a suitable example.
7. Give the difference between aligned dimensioning system and unidirectional dimensioning system used in engineering drawing
8. Enlist the different types of lines with its illustration.
9. Draw a square and pentagon of 40 mm side using the universal circle method.
10. Bisect an angle of 80° and 90° using compass.
11. Draw a pentagon of 35 mm side length using three circle method.
12. Construct a hexagon using universal circle method having 30 mm side length
13. Write down the applications of different types of lines.
14. Explain the systems of dimensioning in engineering drawing.
15. Write down the steps to divide a circle into equal parts with an example
16. Universal circle method for polygon.
17. Draw any three polygons using universal circle method.
18. Draw a pentagon using three circle method
19. Differentiate between Unidirectional method and Aligned method with a neat sketch.

Unit 3 - Engineering Curves

Two marks

1. Draw rhombus of 100 mm & 70 mm long diagonals and inscribe an ellipse in it.
2. Enlist the methods used to draw hyperbola curve and give its applications.
3. Draw involute of square of 30 mm length.
4. Define the term “Eccentricity”.
5. Enlist the different method to generate an ellipse curves.
6. Find the length of string of 40mm diameter circle for drawing of involute curve.
7. Enlist the cycloid curve and write down the application of cycloidal curve.
8. Give the application of parabola and hyperbola.
9. If major axis and minor axis of ellipse is 120 mm and 80 mm than find out distance between two fixed point.
10. Give the value of eccentricity for ellipse, parabola and hyperbola.
11. Explain conics curves with figure.
12. If major axis is 120 mm and distance between two fixed point is 80 mm than find out minor axis of ellipse.
13. Classify conic curve based on eccentricity.
14. Briefly explain with sketch: conics curves.
15. Enlist the different method to generate a parabola curve.
16. Draw an involute for a circle of 30mm diameter.
17. Define: Hypo-Cycloid curve
18. Explain the classification of engineering curves.
19. Define parabola. Write its uses.
20. Draw involute of square of 40 mm length.
21. Enlist the cycloid curves and write down the application of cycloidal curve.
22. Enlist the different method to generate an ellipse curves.

Five marks

1. Construct an ellipse when the distance between the focus and the directrix is 40 mm and eccentricity is 2/3.
2. Construct one complete turn of an involute of a circle of 20 mm radius.
3. Draw Involute of Pentagon of 40 mm Length.
4. The major axis and minor axis of ellipse are 125 mm and 75 mm respectively. draw an ellipse by arcs of circle method.
5. Construct hyperbola curve when distance of focus from directrix is 60 mm. Assume eccentricity.
6. A Circle of 40mm Diameter Is Rolling On a Straight Path Without Slipping. Draw The Path Traced by A Point P On the Circumference for One Revolution of the Circle. Name The Curve.
7. Construct parabola curve when distance of focus from directrix is 40 mm and eccentricity 2/2.
8. A circle of 50 m diameter rolls on another circle of 75 mm diameter, inside it. trace the locus of a point on the circumference
9. Draw an isosceles triangle having 70 mm base and 80 mm altitude. inscribe a parabola using tangent method (triangle method).
10. The major axis and minor axis of ellipse are 110 mm and 70 mm respectively. construct an ellipse by concentric circle method.
11. Draw a spiral of one convolution in clock wise direction take distance PO = 40 mm (radius).
12. A circle of 15 mm radius is rolling on a circle of 45 mm radius without slip, on outside of it. initially a point p is at the contact point of two circles. draw the locus of the point p for one revolution of the rolling circle. Name the curve and draw tangent and normal to the curve at any point s.
13. Draw vertical axis parabola in rectangle of 100 mm height and 80 mm wide.
14. Draw an Archimedean spiral for the smallest and largest radius 30 mm and 50 mm respectively.
15. Draw an ellipse using parallelogram method. take major diameter 110 mm and minor diameter 70 mm.

Unit 4 - Projections of point, line and plane

Two marks

1. A line PQ 40 mm long is parallel to both VP and HP. Point P is 70 mm above HP and 30 mm in front of VP. Draw its projections.
2. Why second angle and forth angle projection methods are not used in orthographic projection?
3. State the quadrant for the point A & B (1) a' is 50 mm below XY and a is 35 mm above XY (2) b' is 70 mm above XY and b is 50 mm below XY.
4. Locate the position of the point on XY line. (1) Point A is 25 mm below HP and 30 mm in front of VP. (2) Point B is 20 mm above HP and VP both.
5. What will be the position of FV & TV in 2^{nd} angle and 4^{th} angle projection method?
6. A circular plate 40 mm in diameter is parallel to VP; its center is 10 mm above HP and 20 mm in front of VP. Draw its projections.
7. Explain parallel projection.
8. What are the conclusions that are made for first angle projection method?
9. Give the types of plane.
10. A line CD 50 mm long is parallel to VP and perpendicular to HP. Point C is 40 mm above HP and 30 mm in front of VP. Draw its projections.
11. Draw the symbol of 1^{st} angle & 3^{rd} angle projection method.
12. Define: (a) Point and (b) Straight line
13. A rectangle ABCD 60 mm x 30 mm has its corner A 10 mm above the ground and 30 mm in front of the VP. Draw the projections.

14. Give the location of Front View, Top View and Side View in 1st angle projection and 3rd an

15. Explain perspective projection.

16. What is line? Draw a projection of line AB 60 mm long which is inlined to HP at 45°. Point A is 15 mm above HP and 20 mm in front of VP.
17. Locate the position of the point on XY line: (1) Point P is 15 mm above HP and 20 mm behind VP. (2) Point Q is on HP and 25 mm in front of VP.
18. Why only 1st and 3rd angle projections are possible?

Five marks

1. Explain the 3rd angle projection method in detail.
2. Regular pentagonal plate of 45 mm sides has one of its corners on HP. The plane of the pentagon is inclined at 45° to HP. The side of the Pentagon which is opposite of the corner, which is on HP, is inclined at 30° to the VP. Draw projections of the plane.
3. A line AB is having its end A 10 mm above HP and 30 mm in front of VP. It is inclined at 45° to HP and 30° to VP. The end B is below HP and behind VP. Draw the projections of the line AB if the top view length is 80 mm. Also, find the true length of the line.
4. A line AB 75 mm long has its end point A 15 mm above HP and 10 mm in front of VP and end point B 45 mm above HP and 50 mm in front of VP. Determine true inclination of line AB with HP and VP.
5. An isosceles triangle ABC having its base AB = 40 mm and altitude 60 mm is resting on H.P. on its base AB. Draw the projections of the plane when its surface is incline to H.P. at an angle of 45° and the base AB which is on the H.P. is making an angle of 50°to the V.P.
6. Give the difference between first angle projection method and third angle projection method.
7. A line AB, 70 mm long is inclined at an angle of 45° to the H.P. and 30° to the V.P. Its end point 'A' is on the H.P. and 25 mm in front of the V.P. Draw the projections of the line AB assuming it to be in the first quadrant.
8. A rectangular plane ABCD with side AB = 30 mm and BC = 50 mm is resting on the HP on its smaller side AB. Draw the projections of the plane when its surface makes an angle of 45° with the HP and the side AB which is on the HP is inclined at 45° to the VP. Draw the projections of the plane.
9. Draw the projections of given points on a same XY line.
   a. Point A 35 mm below HP and 25 mm behind VP
   b. Point B 40 mm below HP and 40 mm in front of VP
   c. Point C on HP and 40 mm in front of VP
   d. Point D on VP and 25 mm above HP

10. Draw the projections of the following points on the same x-y line.
    a. Point A on H.P and 30 mm behind V.P.
    b. Point B on H.P. and 40 mm in front of V.P.
    c. Point C 25 mm above H.P. and 30 mm behindV.P.
    d. Point D 25 mm below H.P. and 40 mm behind V.P.
    e. Point E on H.P. and on V.P.

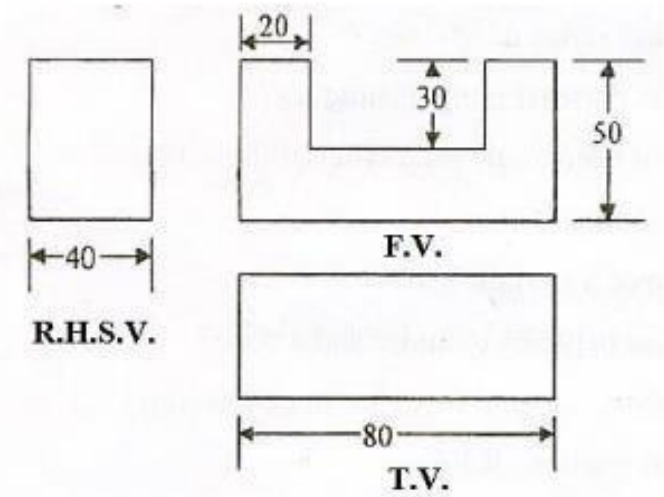
11. A circular plane of 60 mm diameter is resting on HP on the point A of its circumference. The plane is inclined at 30° to the HP. The diameter AB of the plane makes an angle of 45° with the VP. Draw the projections of the circular plane
12. A line CD measuring 80 mm is inclined at an angle of 30° to HP & 45° to VP. The point C is 20 mm above HP & 30 mm in front of VP. Draw the projections of the straight line CD.
13. A thin rectangular plate of sides 50 mm X 20 mm has its shorter side in the V.P. and inclined at 30^0 to the H.P. Project its top view if its front view is a square of 30 mm long sides.
14. A straight line AB is 60 mm long. It is inclined to H.P. and V.P. by an angle of 30° and 45° respectively. Point A is 30 mm above H.P. and 20 mm in front of V.P Draw the projections of straight line AB. III) Explain the 1st angle method in detail.
15. Draw the projections of given points on a same XY line.
    Point E is 30 mm below HP and 20 mm behind VP Point F is 25 mm below HP and 30 mm in front of VP Point G is on VP and 15 mm above HP
    Point H is on HP and 30 mm in front of VP
16. A rectangular plane PQRS with side PQ = 20 mm and QR = 40 mm is resting on the HP on its smaller side PQ. Draw the projections of the plane when its surface makes an angle of 60° with the HP and the side PQ which is on the HP is inclined at 30° to the VP. Draw the projections of the plane.

17. A line UV is having its end U 15 mm above HP and 50 mm in front of VP. It is inclined at 45° to HP and 30° to VP. The end V is below HP and behind VP. Draw the projections of the line UV if the elevation length is 75 mm. Also, find the true length of the line.

Unit 5 - Projections of Solid and Orthographic projections

Two Marks

1. Draw the projection of pentagonal prism of side 25 mm and height 55 mm resting on HP on its base.
2. Give the Difference between 1st angle projection method and 3rd angle projection method.
3. Explain parallel projection.
4. Define the terms: (1) Solid (2) Plane
5. Draw the projection of a cylinder of base 30 mm diameter and axis 50 mm long resting with its base on HP.
6. Draw the symbol of first angle and third angle projection method.
7. Incomplete orthographic projection of an object is shown in the Figure. Draw the missing lines in these views by using 1st angle projection method.

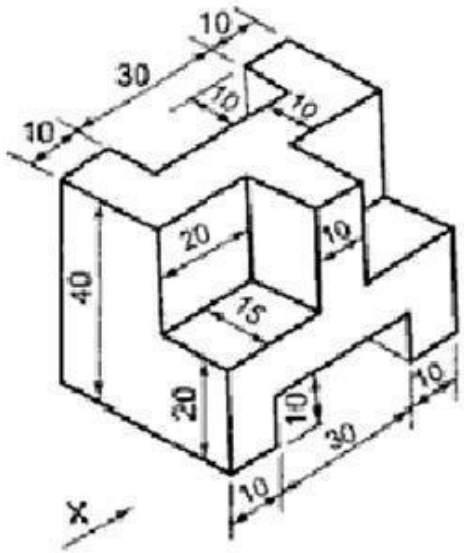


8. 'Second and fourth angle projection methods are not followed in orthographic projections.' – justify the statement.
9. Draw the projection of pentagonal pyramid of side 20 mm and height 50 mm resting on HP on its base.
10. Define the terms: (a) Prism (b) Pyramid.
11. Draw the symbol of 1st angle & 3rd angle projection method.
12. A cylinder, diameter of base 60 mm and height 70 mm is resting on HP on its base parallel to HP draw the projection of cylinder.
13. Define auxiliary inclined plane and auxiliary vertical plane.
14. Differentiate between 1st angle projection method and 3rd angle projection method.
15. Draw the projection of cone of 40 mm diameter and 60 mm height resting on VP on its base parallel to VP.
16. Define parallel projection and perspective projection.
17. Why second and fourth angles of projections are not followed in orthographic projection?
18. A square prism of 30 mm length and 45 mm height is resting on HP. Draw the projection of prism.
19. Draw pentagonal prism of side of 20 mm and 40 mm height.
20. Briefly explain sectional orthographic projections.

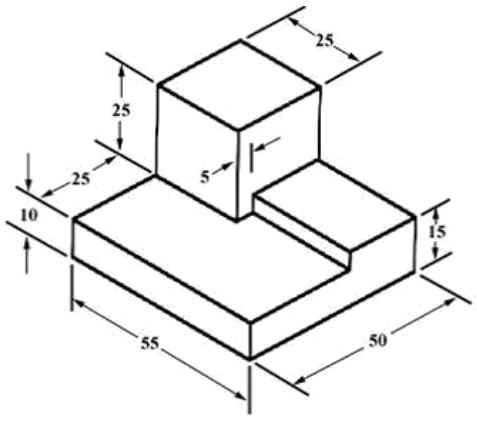
21. A square pyramid side of base 40 mm and axis length 60 mm is kept on the VP on its base parallel to VP. Draw the projection of the pyramid.
22. What Is the difference between Plane and Solid?
23. Write down the rules to draw hatching line in sectional orthographic projection.
24. Draw the projection pentagon prism of 25 mm side and 45 mm height is resting on HP on its base parallel to HP.

Five Marks

1. A cylinder base diameter 50 mm and axis height 70 mm is kept on the H.P. on a point of its base circle in such a way that its axis makes an angle of 30° with the H.P. Draw the projections of the cylinder when the plan of the axis is making 45° to the XY line.
2. A square pyramid, side of base is 50 mm and axis length 60 mm is kept on HP. On one of its base edges is in such a way that its axis makes an angle of 45° with HP. If the base edge which is on HP makes an angle of 45° with the VP, draw the projections when apex is 30 mm away from VP.
3. For the following object draw: (1) front view in X direction, (2) top view and (3) right hand side view, using 3rd angle projection method.



4. Draw the following views of an object: (1) Front view (2) Right hand side view (3) Top view. Use 1st angle projection method.

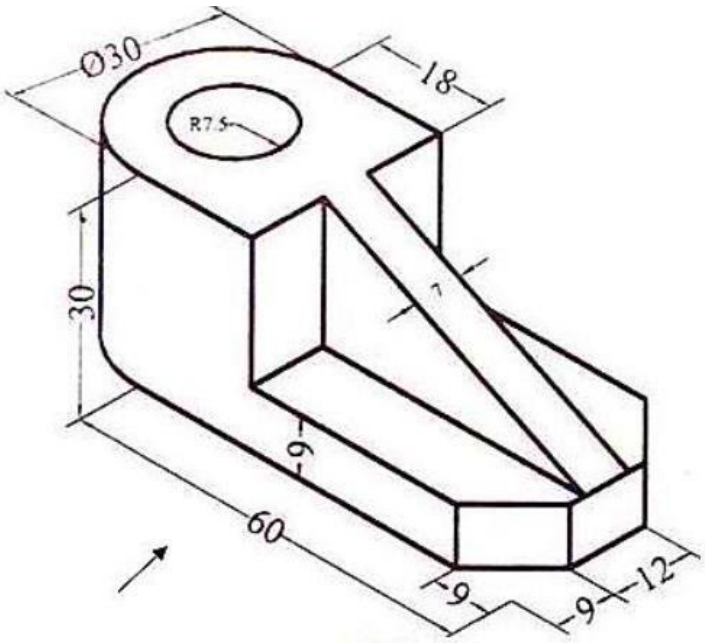


5. A cone, base diameter 50 mm and axis length 60 mm is kept on the HP on a point of its base circle in such a way that its axis makes an angle of 30° with HP. Draw the projections of the cone when plan of axis is making 45° to the XY line.

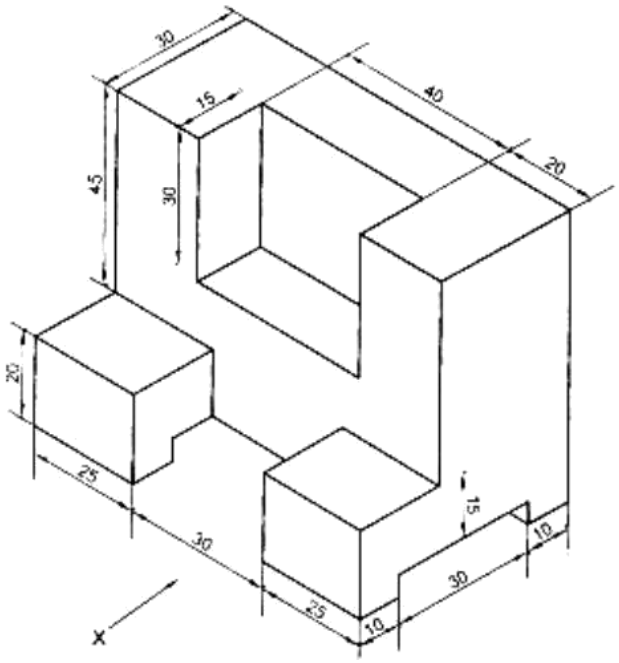
6. Give the classification of Solid in detail with neat sketches.

7. A Hexagonal prism is resting on HP on one of its side of base 30 mm, such that axis of 60 mm is inclined at 45° to HP and the side on which it is resting is inclined at 30° to V.P .Draw the projections.

8. Draw (a) Front View looking in arrow direction, (b) Top view using first angle projection method for given figure.

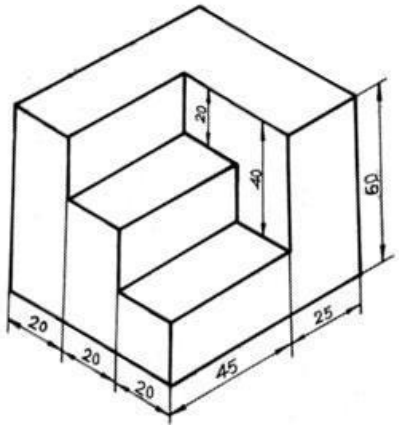


9. Draw (a) Front View looking in the direction X, (b) Side view using third-angle projection method for given fig.



10. A pentagonal prism rests on one of its edges of the based on HP with its axis is inclined at 45° to the hp. The top view of the axis is inclined at 30° to the VP. Draw the projections of the prism assuming the edge of the base to be 30 mm and the axis 70 mm long.

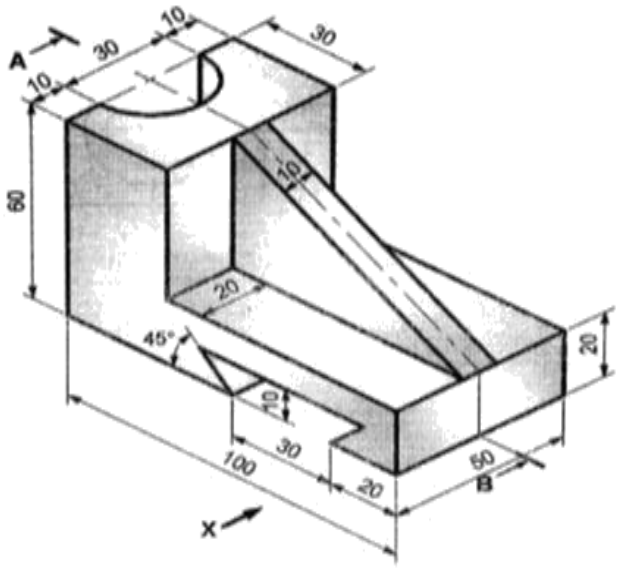
11. Figure shows pictorial view of an object. Draw following views: (1) Front View, (2) Top View and (3) Right Hand Side View. Use 3rd angle projection method.



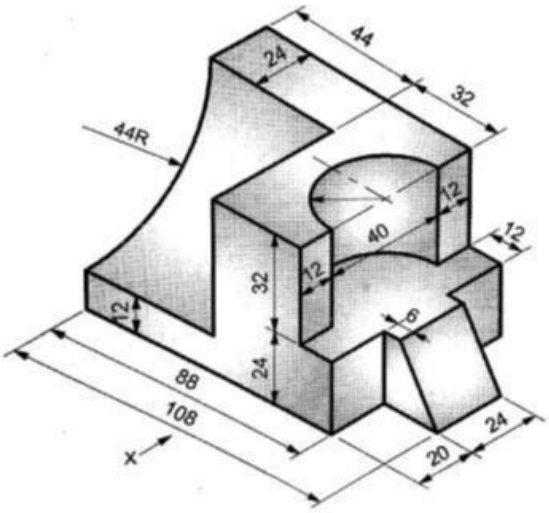
12. Classifiy the solids.

13. A square prism side of base 40 mm and axis length 60 mm is kept on the VP on a side of its base such that its axis makes and angle of 30° with the VP. Draw the projections of the prism when the side of the base which is in VP is making an angle of 45° to HP.

14. For the following object, draw: (1) Sectional front view, (2) Top view. Use 1st angle projection method.

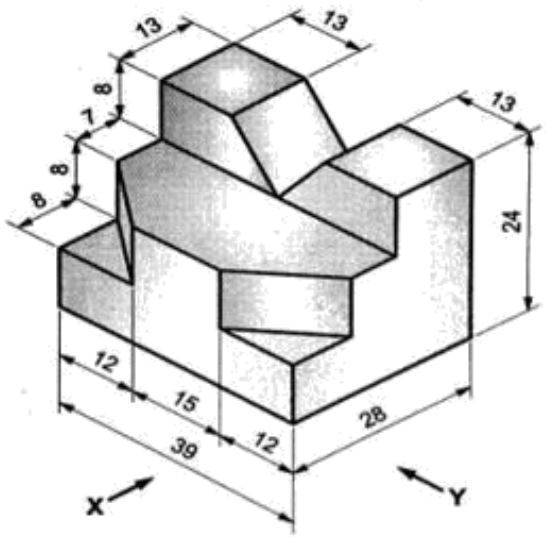


15. For the following object, draw: (1) Front view in X direction, (2) Top View and (3) Right hand side view. Use 3rd angle projection method.



16. A pentagonal pyramid is having its base ABCDE and the apex O. The length of the axis is 80 mm and the edge of base is 30 mm. The pyramid is resting on the HP with the edge CD on it. Draw the projections when the axis of the pyramid is incident at 30° to the HP and the plan of the axis of the pyramid makes 45° with the VP.

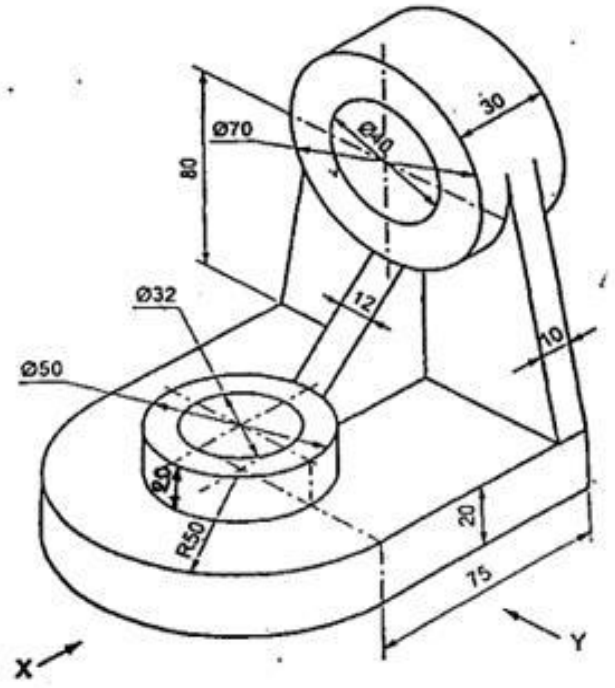
17. Figure shows pictorial view of an object. Draw following views: (1) Front view looking in X direction, (2) Side view looking in Y direction, (3) Top view. Use 1st angle projection method.



18. A square pyramid, side of base is 50 mm and axis length 60 mm is kept on HP. On one of its base edges is in such a way that its axis makes an angle of 45° with HP. If the base edge which is on HP makes an angle of 45° with the VP, draw the projections when apex is 30 mm away from VP.

19. A cylinder, base diameter 40 mm and axis length 60 mm is kept on the VP on the point of its base circle in such a way that its axis makes an angle of 45° with VP. Draw the projections of the cylinder when elevation of axis is making 45° to the XY line.

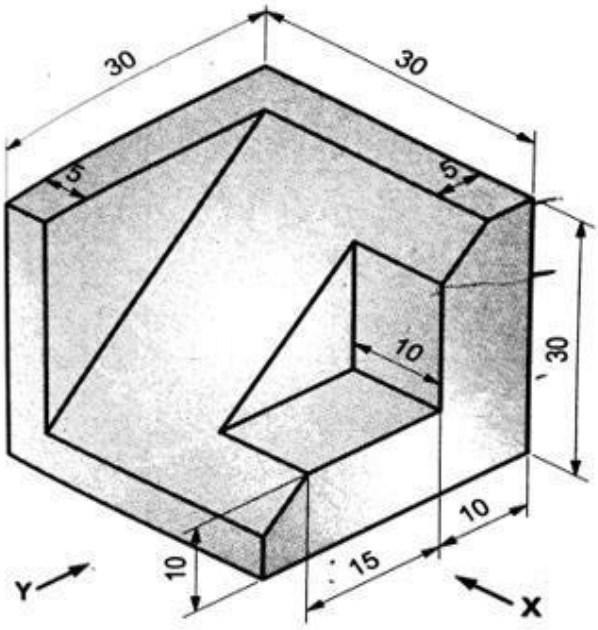
20. For the following object draw: (1) front view in X direction, (2) top view and (3) right hand side view, using 3rd angle projection method.



21. A hexagonal pyramid, base 25 mm side and axis 55 mm long, has one of its slant edges on the HP. A plane containing that edge and axis is perpendicular to the HP and inclined at 45° to the VP. Draw its projections when the apex is nearer to VP then the base.

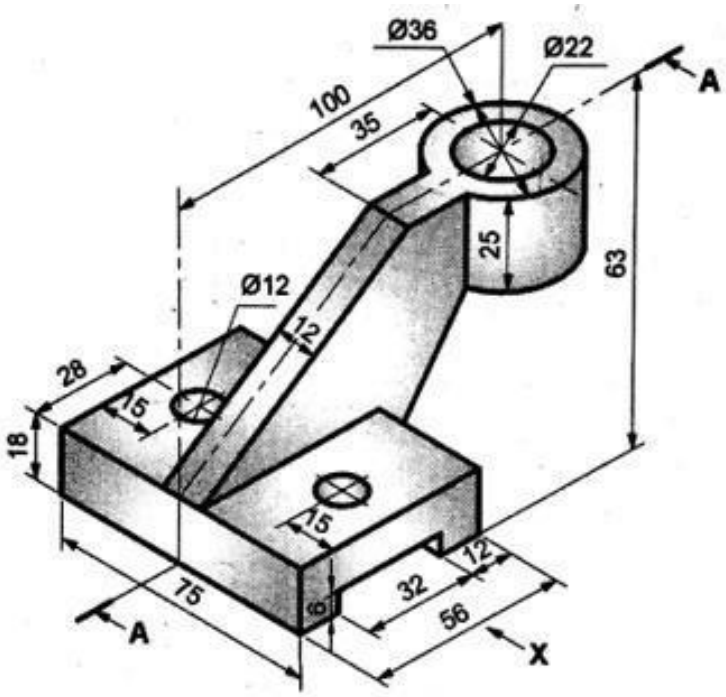
22. A cone, with base diameter 50 mm and axis length 60 mm is kept on the HP on a point of its base circle in such a way that its axis makes an angle of 30° with HP. Draw the projections of the cone when plan of axis is making 45° to the XY line.

23. Draw following views for the given object: (1) front view looking in X direction, (2) side view looking in Y direction, (3) top view. Use 3rd angle projection method.



24. Draw following views for the given object: (1) Sectional Front View Looking in X Direction.

(2) Left Hand Side View Looking in Y Direction. Use 1st Angle Projection Method.



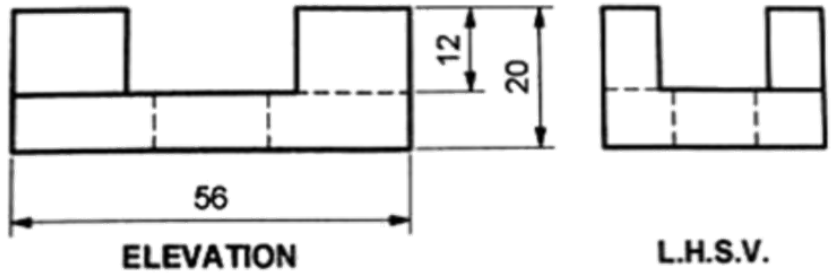
Unit 6 - Isometric Projections

Two marks

1. Draw the isometric construction of a cone of a base radius 25 mm and axis length 60 mm.
2. Write down the uses of isometric scale.
3. What do you mean by isometric projection? And explain in brief.
4. What will be the isometric length of a line if its true length is 85 mm and 15 mm?
5. Draw an isometric drawing of circle of 20 mm radius.
6. Give the definition of isometric axis and also draw it.
7. Differentiate between isometric lines and non-isometric lines.
8. What is the difference between isometric projection and isometric drawing?
9. Draw an isometric drawing of circle of 50 mm radius.
10. What do you mean by isometric projection? And explain in brief.
11. Give the definition of isometric line and draw it.
12. Construct the isometric drawing of square pyramid having side of base 25 mm and axis length 45 mm.
13. Write down the uses of isometric scale.
14. Draw an isometric drawing of cylinder having base radius is 15 mm and height is 50 mm.
15. Draw an isometric drawing of following planes. (a) Square of 30 mm side length, (b) Rectangle of 15 × 25 mm length.
16. Define the isometric planes with sketch.
17. Draw an isometric drawing of hexagon having 20 mm side length.
18. Prepare the isometric scale to measure the 70 mm long line.
19. Prepare the isometric drawing of square prism having side of base 20 mm and axis length 40 mm.
20. What is the difference between isometric drawing and isometric projection?
21. Draw the isometric construction of a cone of a base radius 20 mm and axis length 55 mm.

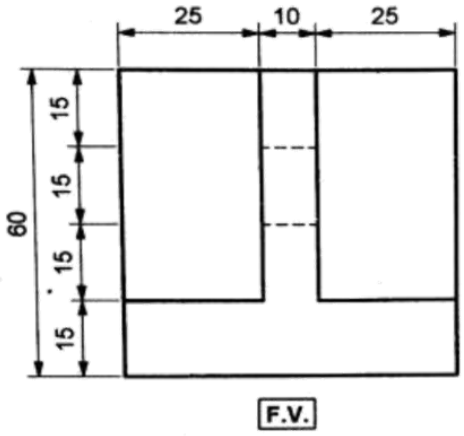
Five marks

1. Draw the isometric scale of 100 mm and 85 mm long line.
2. construct isometric scale & show distance of 50 mm and 70 mm on Isometric scale.
3. Write down the steps to construct isometric circle with an example.
4. Construct isometric scale & show distance of 40 mm and 90 mm on isometric scale.
5. Draw an Isometric drawing from the views given in the figure
6. Explain the procedure to draw Isometric scale with diagram.
7. Construct isometric scale & show distance of 50 mm and 70 mm on isometric scale.
8. Draw the isometric scale of 100 mm and 85 mm long line.
9. Derive the equation for the isometric length.
10. Draw an Isometric drawing from the views given in the below figures:

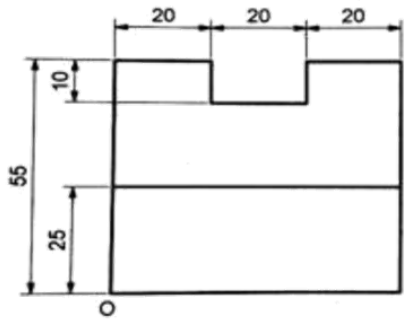


ELEVATION

L.H.S.V.



F.V.



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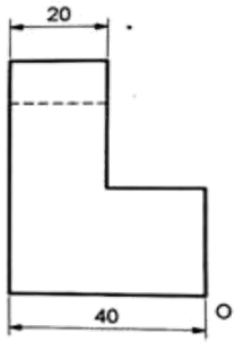

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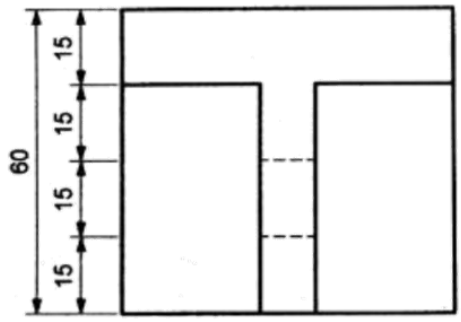
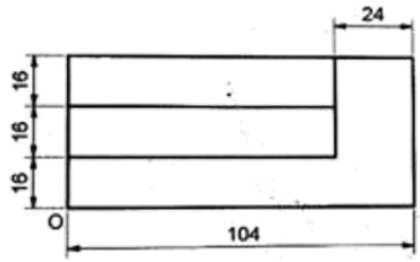


TOP VIEW



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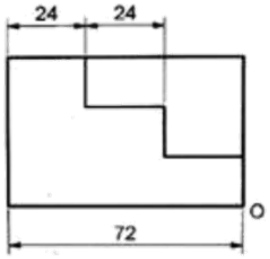

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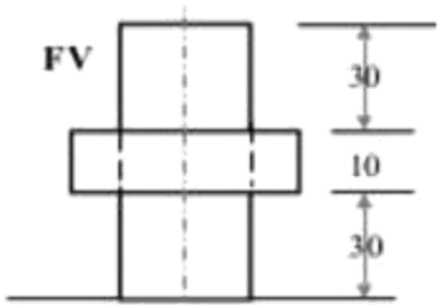
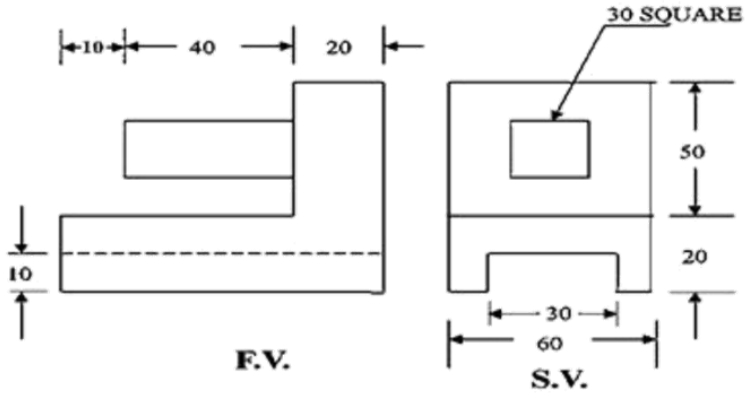
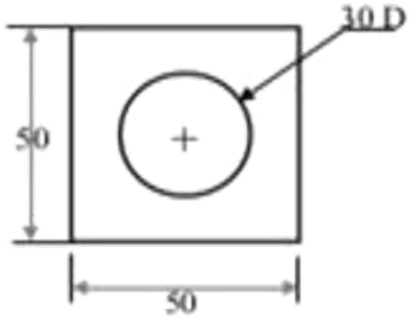


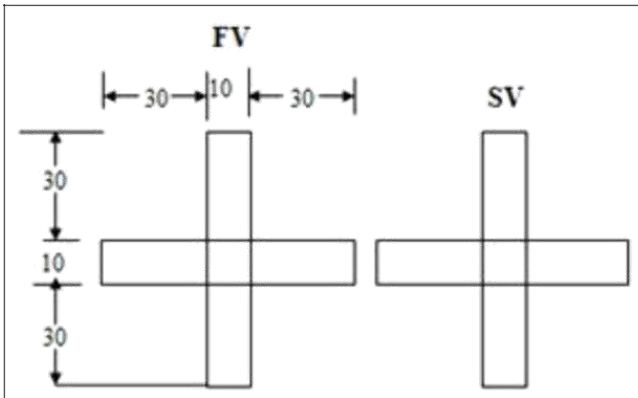


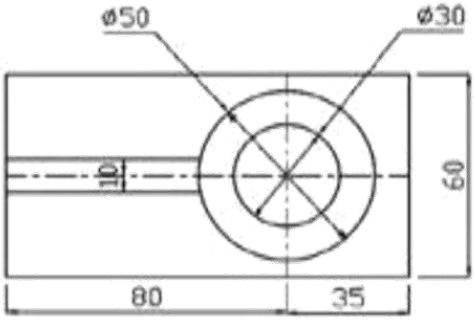
F.V.

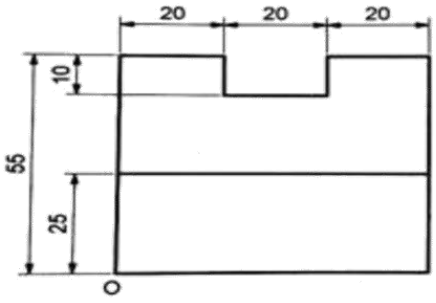
S.V.



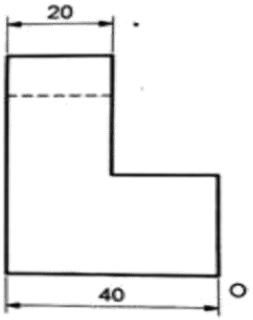
TV



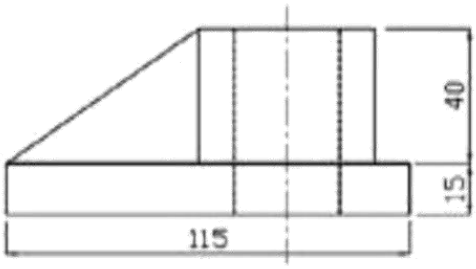


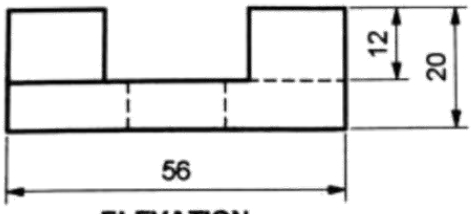


F. V.

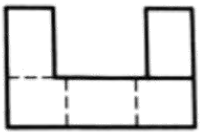


L. H. S. V.





ELEVATION



L.H.S.V.