



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad -500 043

## MECHANICAL ENGINEERING

### TUTORIAL QUESTION BANK

Course Name	:	Engineering Drawing
Course Code	:	AME001
Class	:	I B.Tech I Semester
Branch	:	Common for AE / ME / CE
Academic Year	:	2017 - 2018
Course Coordinator	:	Prof. B. V. S. N Rao, Professor.
Course Faculty	:	Prof. B. V. S. N Rao, Professor, Mr. G. Sarat Raju, Assistant professor

#### COURSE OBJECTIVES (COs):

The course should enable the students to

I	<b>Understand</b> the basic principles of engineering drawing and construction of curves used in engineering field.
II	<b>Remember</b> the knowledge of interpretation of projection in different quadrants.
III	<b>Understand</b> the projections of solids, when it is inclined to both planes simultaneously.
IV	Convert the pictorial views into orthographic view and vice versa.
V	<b>Create</b> intricate details of components and develop its surfaces.

#### COURSE LEARNING OUTCOMES (CLOs):

Students, who complete the course, will have demonstrated the ability to do the following:

CAME001.01	Understand the BIS conventions of engineering drawing with basic concepts, ideas and methodology.
CAME001.02	Recognize the need of single stroke lettering in defining the components.
CAME001.03	Understand the different line types according to BIS standards to engineering drawings.
CAME001.04	Sketch the various types of polygons for applying in solid modeling.
CAME001.05	Discuss the various types of scales for engineering application like maps, buildings, bridges.
CAME001.06	Visualize parabolic and elliptical profiles in buildings and bridges
CAME001.07	Visualize cycloidal and involute profiles in developing new products like gears and other engineering applications.
CAME001.08	Solve specific geometrical problems in plane geometry involving points and lines.
CAME001.09	Understand the theory of projection in planes located in various quadrants and apply in manufacturing processes.
CAME001.10	Understand the orthographic projection concepts in solid modeling and apply the concepts in the areas of design.
CAME001.11	Apply the terminology of development of surfaces in the area of chimneys and chutes.
CAME001.12	Visualize the components by isometric projection by representing three-dimensional objects in two dimensions in technical and engineering drawings.
CAME001.13	Interpret plumbing drawings typically found in construction by using transformation of projection.
CAME001.14	Convert the orthographic views into pictorial views by using transformation of projection.
CAME001.15	Convert the pictorial views into orthographic views by using transformation of projection.
CAME001.16	Explore the use of modern engineering tools, software and equipment to prepare for competitive exams, higher studies etc.

## TUTORIAL QUESTION BANK

UNIT – I			
SCALES AND CURVES			
S No	QUESTIONS	Blooms Taxonomy level	Course Learning Outcomes
1	A 4 cm long line on a map represents a 1.5 m length. Determine the RF and draw a scale long enough to measure up to 6m. Show a distance of 4.6 m on it.	Understand	CAME001.05
2	Construct a scale of 1:14 to read feet and inches and long enough to measure 7 feet. Show a distance of 5 feet 10 inches on it.	Understand	CAME001.05
3	Construct a scale of 1:54 to show yards and feet and long enough to measure 9 yards. Mark a distance of 5 yards 2 feet on it.	Understand	CAME001.05
4	Old road map of Bombay city was drawn with 10 cm, on the map representing 25 miles. Construct a plain scale to read miles on this map and long enough to measure distance between gateway of India and Borivalli which is 40 miles.	Understand	CAME001.05
5	Construct a scale to measure up to 50 m if 1cm represents 4 m, finds its RF and mark a distance 37 m on it.	Understand	CAME001.05
6	A 4 cm long line on map represents 1.5 meter length. Determine the RF and draw a scale long enough to measure up to 6 meters. Show a distance of 4.6 meters on it.	Understand	CAME001.05
7	A Stone is thrown from a 4 m high building and at its highest flight; the stone just crosses the top of a 10 m high tree from the ground. Trace the path of the projectile, if the horizontal distance between the building and the tree is 5m. Find the distance of the point from the building where the stone falls on the ground.	Understand	CAME001.06
8	A circus man rides on a motor cycle inside a globe having a 100mm radius. The motor cycle wheel is 60mm diameter. Draw the locus of a point lying on the circumference of the wheel of the motor cycle for one complete revolution.	Understand	CAME001.06
9	Construct an ellipse when the distance of the focus from the directrix is equal to 60 mm and eccentricity $2/3$ . Also, draw a normal and a tangent to the curve at a point 35 mm from the focus.	Understand	CAME001.06
10	Draw a straight line AB of any length. Make a point F, 80 mm from AB. Trace the paths of a point P moving in such a way that the ratio of its distance from the point F, to its distance from AB is (a) 3:2 (b) 1 Plot at least 10 points. Name each curve. Draw a normal and a tangent to each curve at a point on it 45mm from F.	Understand	CAME001.06
11	Draw the major axis of an ellipse is 110 mm long and the foci are at a distance of 15 mm from its ends. Draw the ellipse, One-half of it by concentric circles method and the other half by rectangle method.	Understand	CAME001.06
12	Draw an involute of a circle of 50 mm diameter. Also draw a tangent and a normal at a point 100 mm distant from the center of the circle.	Remember	CAME001.07
13	A circle of 50 mm diameter, rolls on a horizontal line for half a revolution clock wise and then on a line inclined at $60^\circ$ to the horizontal for another half clockwise. Draw the curve traced by a point P on the circumference of the circle, taking the top most point on the rolling circle as the initial position of the generating point.	Remember	CAME001.07
14	Construct an ellipse when the distance between the locus and the directrix is 30 mm and the eccentricity is $3/4$ . Draw the tangent and normal at any point P on the curve using directrix.	Remember	CAME001.06
15	The asymptotes of a hyperbola are making $70^\circ$ with each other. A point P on the curve is at a distance of 40 mm from the horizontal asymptote and 50 mm from the inclined asymptote. Plot the curve. Draw a normal and a tangent to the curve at any point.	Remember	CAME001.06
16	Draw a cycloid for one complete revolution of a cycle having a 30 mm radius. Taking the top most point on the rolling circle as the initial position of the generating point. Draw a tangent and a normal to the curve at a point distant 40 mm above the base line.	Remember	CAME001.07

17	A circle of 40 mm diameter rolls on the concave side of another circle of 40 mm radius. Draw the path traced by a point on the generating circle for one complete revolution.	Remember	CAME001.06
18	Draw a hyperbola having its two asymptotes inclined at $70^{\circ}$ to each other and passing through a point P at a distance of 30 mm from one asymptote and 36 mm from the other. Draw a normal and tangent at any convenient point.	Remember	CAME001.06
19	The foci of an ellipse are 100 mm apart and the minor axis is 70 mm long. Determine the length of the major axis and draw half the ellipse by concentric circles method and the other half by Oblong method. Draw a curve parallel to the ellipse and 25 mm away from it.	Remember	CAME001.06
20	Construct a hypocycloid, rolling circle 60 mm diameter and directing circle 120 mm diameter.	Remember	CAME001.06

## UNIT – II

### POINTS, STRAIGHT LINES, PLANES

S No	QUESTIONS	Blooms Taxonomy level	Course Learning Outcomes
1	Draw the projectors of the following points in different quadrants. I. Point A, 25 mm in front of V.P. and 30 mm above H.P. II. Point B, 22 mm behind V.P. and 28 mm above H.P. III. Point C, 28 mm behind V.P. and 30 mm below H.P. IV. Point D, 40 mm in front of V.P. and 25 mm below H.P.	Understand	CAME001.08
2	The front view of a line makes an angle of $30^{\circ}$ with reference line. The HT of a line is 30 mm in front of the VP. While VT is 20 mm below the HP. One end of the line is 15mm above the HP and the other end of the line is 100 mm in front of the VP. Draw the projections of the line and determine its true length and true angles of inclination with the reference planes.	Understand	CAME001.08
3	A 70 mm long line PQ is inclined at $30^{\circ}$ to the HP. The end P is 15 mm in front of the VP and 25 mm above the HP. The front view of the line measures 45mm. Draw its projections and determine the true angle of inclination with V.P.	Understand	CAME001.08
4	A line AB 75 mm long is inclined at $45^{\circ}$ to the HP and $30^{\circ}$ to VP. Its end B is in the HP and 40 mm in front of the VP. Draw its projections and determine traces.	Understand	CAME001.08
5	The top view of the 75 mm long line CD measures 50 mm. C is 50 mm in front of VP and 15 mm below the HP. The point D is 15 mm in front of VP and it is above the HP. Draw the front of view of CD and find its inclinations with the HP and VP. Show the traces.	Remember	CAME001.08
6	A straight line PQ has its end P at 20 mm above the HP and 30 mm in front of the VP and end Q is 80 mm above the HP and 70 mm in front of VP. If the end projectors are 60 mm apart. Draw the projections of the line. Determine its true length and true inclinations with the reference planes.	Understand	CAME001.08
7	A line of 100 mm long makes an angle $35^{\circ}$ with HP and $45^{\circ}$ with VP. Its mid point is 20 mm above HP and 15 in front of VP. Draw the projections of the line. Also draw the traces.	Understand	CAME001.08
8	A line PQ measures 70 mm. The projector through its VT and the end P are 40 mm apart. The point P is 30 mm above the HP and 40 mm in front of the VP. The VP is 10 mm above the HP. Draw the projections of the line and determine its HT and inclinations with the HP and VP.	Remember	CAME001.08
9	A 75 mm long line PQ is inclined at an angle of $30^{\circ}$ to the VP. The end P is on the HP and 30mm in front of the VP. The end Q is 50 mm above the HP. Draw the projections of the line and locate its traces.	Remember	CAME001.08
10	The front view and top view of a straight line PQ measures 50mm and 65 mm respectively. The point P is in the HP and 20 mm in front of the VP and the front view of the line is inclined at $45^{\circ}$ to the reference line. Determine the true length of PQ, true angles of inclination with the reference planes and the traces.	Remember	CAME001.08
11	A 60 mm line AB, has an end P at 25 mm above the HP and 30 mm in front of VP. The line is inclined at $50^{\circ}$ to HP and $40^{\circ}$ to VP. Draw its projections.	Remember	CAME001.08

12	A line AB of 70 mm long has its end A at 10 mm above HP and 15 mm in front of VP. Its front view and top view measures 50 mm and 60 mm respectively. Draw the projections of the line and determine its inclinations with HP and VP.	Remember	CAME001.08
13	The top view of a 75 mm long line measures 65 mm, while the length of its front view is 50 mm. Its one end A is in the HP and 12 mm in front of VP. Draw the projections of AB and determine its inclinations with the HP and VP. Draw its traces.	Remember	CAME001.08
14	A line AB, 90 mm long, is inclined at $45^{\circ}$ to the HP and its top view makes an angle of $60^{\circ}$ with the VP. The end A is in the HP and 12 mm in front of VP. Draw its front view and find its true inclination with VP.	Understand	CAME001.08
15	A line AB 65 mm long has its end A 25 mm above HP and 20 mm in front of VP. The end B is 40 mm above HP and 50 mm in front of VP. Draw its projections and find its inclinations with HP and VP. Determine traces.	Understand	CAME001.08
16	A $60^{\circ}$ set square of 125 mm longest side is so kept that, the longest side is in the H.P. making an angle of $30^{\circ}$ with the V.P. and the set square itself inclined at $45^{\circ}$ to the H.P. Draw the projections of the set square using auxiliary plane method.	Understand	CAME001.09
17	Draw the projections of a regular hexagon of 30 mm side, having one of its sides in the HP and inclined at $60^{\circ}$ to the V.P and its surface making an angle of $45^{\circ}$ with the H.P.	Understand	CAME001.09
18	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 ellipse is horizontal.	Understand	CAME001.09
19	A square of ABCD of 50 mm side has its corner A in the HP, its diagonal AC inclined at $30^{\circ}$ to the HP and the diagonal BD inclined at $45^{\circ}$ to the VP and parallel to the HP. Draw its projections.	Remember	CAME001.09
20	A pentagonal plane of 30mm side has one of its sides in the V.P. and inclined at $60^{\circ}$ to the H.P. while the surface of the plane makes an angle of $40^{\circ}$ V.P. Draw its projections.	Remember	CAME001.09

### UNIT-III

#### PROJECTION OF SOLIDS

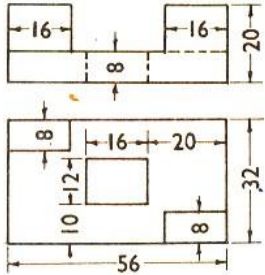
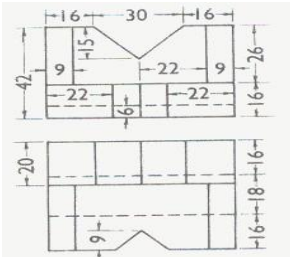
S No	QUESTIONS	Blooms Taxonomy Level	Course Learning Outcomes
1	A square Pyramid base 40 mm side and axis 75 mm long is placed on the ground on one of its slant edges. So that the vertical plane passing through that edge and axis makes an angle of $30^{\circ}$ with the V.P. Draw its three Views.	Remember	CAME001.10
2	A pentagonal pyramid having a base with a 30 mm side and a 60 mm long axis rests on an edge of its base on the ground, so that the highest point of the base is 20 mm above the ground. Draw its projections if the vertical plane containing the axis is inclined at $30^{\circ}$ to the V.P.	Remember	CAME001.10
3	Draw the projection of a cone, base 75 mm diameter and axis 100 mm long, lying on H.P. on one of its generators with axis parallel to the V.P.	Understand	CAME001.10
4	A Pentagonal prism is resting on corner of its base on the ground with a large edge containing that corner is inclined at $45^{\circ}$ to the HP and the vertical plane containing that edge and the axis inclined at $30^{\circ}$ to the VP. Draw its projections of its base side 40 mm and height 65 mm.	Understand	CAME001.10
5	A square prism, side of base 30 mm and axis 50 mm long, has its axis inclined at $60^{\circ}$ to H.P. its has an edge of its base in the H.P and inclined at $45^{\circ}$ to V.P. Draw the projections.	Understand	CAME001.10
6	A cone of base diameter 60 mm and altitude 75 mm lies on the H.P. on one of its generators. The plan of the axis is inclined at $45^{\circ}$ to the V.P. draw its projections.	Understand	CAME001.10
7	A square prism base 40 mm side and height 65 mm has its axis inclined at $45^{\circ}$ to HP and has an edge of its base on the HP and inclined at $30^{\circ}$ to VP. Draw its projections.	Understand	CAME001.10

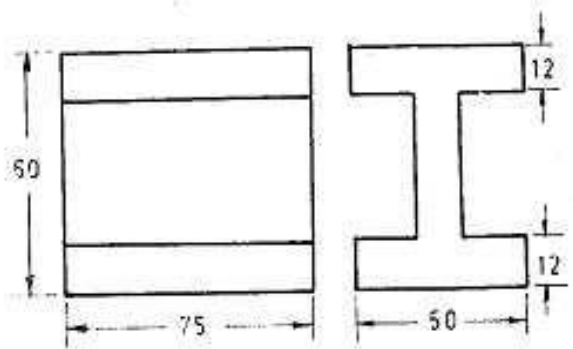
8	A square pyramid having a base with a 40 mm side and a 75 mm long axis has a corner of its base on the V.P. A slant edge contained by that corner is inclined at $45^{\circ}$ to the V.P and the plane containing the slant edge and the axis is inclined at $60^{\circ}$ to the H.P. Draw its projections.	Understand	CAME001.09
9	Draw the projection of a rectangular pyramid of height 60 mm and base edge 30 mm resting on a corner with the slanting edge containing the above corner at $60^{\circ}$ with H.P.	Understand	CAME001.09
10	A pentagonal pyramid, base 25 mm side and axis 50 mm long has one of triangular faces in the V.P. and the edge of the base contained by that face makes an angle of 30 degrees with the H.P. Draw its projections.	Understand	CAME001.09
11	One of the body diagonals of a cube of 45 mm edge is parallel to the H.P. and inclined at 45 degrees to the V.P. Draw the front view and top view of the cube.	Understand	CAME001.09
12	A cone of base diameter 40 mm and axis height 60 mm rests on the ground on a point of its base circle such that the axis of the cone is inclined at $40^{\circ}$ to the H.P and $30^{\circ}$ to the V.P, Draw its front and top view.	Understand	CAME001.09
13	A square prism, side of base 30mm and axis 50 mm long, has its axis inclined at $60^{\circ}$ to HP. It has an edge of its base in the HP and inclined at $45^{\circ}$ to VP. Draw its projections.	Understand	CAME001.09
14	A square pyramid of base edge 30 mm and altitude 40 mm has one of its slant faces in the V.P and the edge of the base contained by that face is inclined at $45^{\circ}$ to the H.P. Draw the projections of the pyramid when the vertex is in the H.P.	Understand	CAME001.09
15	A pentagonal prism side of base 25 mm and axis 65 mm long rests with one of edges of its, base on H.P Its axis is inclined at $30^{\circ}$ , to H.P and parallel to V.P. Draw its projections.	Understand	CAME001.09
16	A square prism, base 40 mm side and height 65 mm has its axis inclined at $45^{\circ}$ to the HP and has an edge of its base, on the H.P and inclined at $30^{\circ}$ to the V.P. Draw its projections.	Remember	CAME001.09
17	Draw the projections of a cone, base 30 mm diameter and axis 50 mm long, resting on H.P on a point of its base circle with the axis making an angle of $45^{\circ}$ with H.P and $30^{\circ}$ with V.P.	Remember	CAME001.09
18	Draw the projection of a square pyramid of base 40 mm side and axis 70 mm long, when the solid lies with one of its slant edges on HP and the vertical plane passing through that slant edge and axis makes $30^{\circ}$ with V.P.	Understand	CAME001.09
19	A pentagonal pyramid, with base 35 mm side and height 70 mm rests on one edge of its base on HP so that the highest point on the base is 25 mm above HP. Draw its projection, when the axis is parallel to VP. Draw another front view, on a reference line inclined at $45^{\circ}$ to the edge on which it is resting so that the base is visible.	Remember	CAME001.09
20	A frustum of a cone diameter of base 60 mm, diameter of top surface 30 mm and axis 45mm long is lying on HP on one of its generators. The plane containing the axis and the generator makes an angle of $45^{\circ}$ to VP. Draw its front and top views.	Remember	CAME001.09

#### UNIT-IV

#### DEVELOPMENTS, ISOMETRIC PROJECTIONS

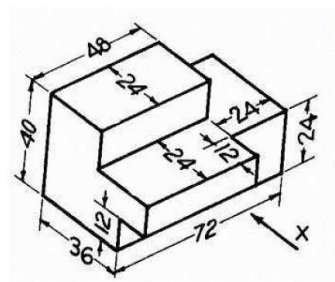
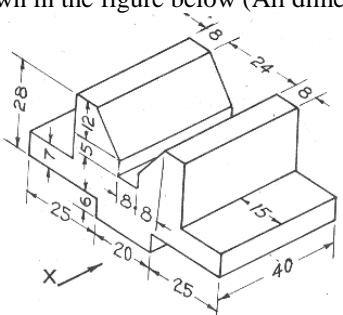
S No	QUESTIONS	Blooms Taxonomy level	Course Learning Outcomes
1	Draw the development of a cylinder of 50 mm diameter and 75 mm height, containing a square hole of 25 mm side. The sides of the hole are equally inclined to the base and the axis of the hole bisects the axis of the cylinder.	Understand	CAME001.11
2	A Hexagonal pyramid of base 50 mm and axis 100 mm long is resting on its base with two of its side parallel to VP. It is cut by a sectional plane perpendicular to VP and inclined at $45^{\circ}$ to HP. Sectional plane is passing through the mid point of axis .Draw the development for the top part of the pyramid.	Understand	CAME001.11
3	Draw the development of a cylinder of 50 mm diameter and 75 mm height, containing a square hole of 25 mm side. The sides of the hole are equally inclined to the base and the axis of the hole bisects the axis of the cylinder.	Understand	CAME001.11

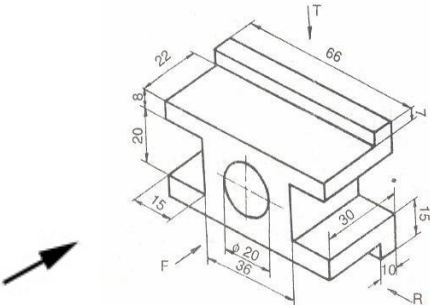
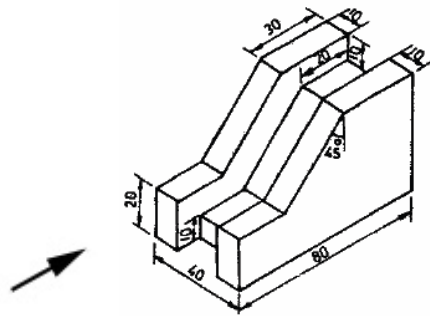
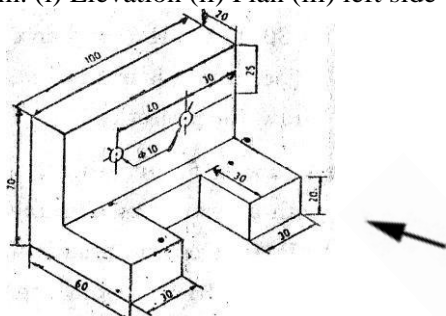
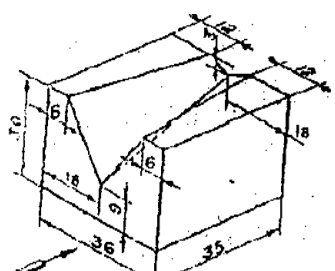
4	A cylinder, base 65 mm diameter and 90 mm long, and the base lying on the ground. It is cut by a horizontal section plane inclined $30^{\circ}$ to the H.P and cutting the axis at a point 40 mm above the ground. Draw the development of lateral surface of cylinder.	Understand	CAME001.11
5	A pentagonal prism, base 30 mm side and axis 60 mm long, and the base lying on the ground. It is cut by a horizontal section plane inclined $30^{\circ}$ to the H.P and cutting the axis at a point 25 mm above the ground. Draw the development of lateral surface of cylinder.	Understand	CAME001.11
6	A pentagonal prism having a base with 30 mm side and 70 mm long axis is resting on its base on HP. Such that one of the rectangular faces is parallel to VP. It is cut by an auxiliary inclined plane whose VT is inclined at $45^{\circ}$ with the reference line and passes through mid point of the axis, draw the development of the lateral surface of the prism.	Understand	CAME001.11
7	A cube of 40 mm edge stands on one of its faces on H.P. with a vertical face making $45^{\circ}$ to the V.P. a horizontal hole of 30 mm diameter is drilled centrally through the cube such that the hole passes through the opposite vertical edges of the cube. Obtain the development of the lateral surface of the cube with the hole.	Understand	CAME001.11
8	A right cone with 50 mm base diameter and 60 mm axis is resting on its base in the HP ,its cut by an auxiliary inclined lane parallel to and 8 mm away from the extreme generator, draw the development of the lateral surface of the remaining solid.	Understand	CAME001.11
9	A cone, base 50 mm diameter and 70 mm long, and the base lying on the ground. It is cut by a horizontal section plane inclined $45^{\circ}$ to the H.P and cutting the axis at a point 40 mm above the ground. Draw the development of lateral surface of cone.	Understand	CAME001.11
10	A square pyramid with side of base 30 mm axis 50 mm long is resting on its base on H.P with on edge of the base parallel to V.P .it is cut by a sectional plane, perpendicular to V.P and inclined at $45^{\circ}$ to H.P the sectional plane is passing through the midpoint of the axis. Draw the development of the surface cut pyramid.	Understand	CAME001.11
11	Draw an isometric view of given figure below. (All dimensions are in mm). 	Understand	CAME001.14
12	Draw the isometric view of given orthographic views. (All dimensions are in mm) 	Understand	CAME001.14
13	Draw the isometric projection of a frustum of hexagonal pyramid, side of base 30 mm the side of top face 15 mm of height 50 mm.	Understand	CAME001.14
14	Draw the isometric view of a cone 40 mm diameter and axis 55 mm long when its axis is horizontal.	Understand	CAME001.14
15	Draw the isometric projection of a Frustum of hexagonal pyramid, side of base 30mm the side of top face 15mm of height 50 mm.	Understand	CAME001.14
16	The outside dimensions of a box made of 5 mm thick wooden planks are 80x 60 x 50 mm. The depth of the lid on outside is 10 mm. Draw the isometric view of the box with the lid open.	Understand	CAME001.14
17	A cylinder of base diameter 30 mm axis 60 mm is resting centrally on a slab of 60 mm square and thickness 20 mm. Draw the isometric projection of the combination of the solids.	Understand	CAME001.14

18	Draw the isometric projection of a frustum of hexagonal pyramid, side of base 30 mm, the side of top face 15 mm of height 50 mm.	Understand	CAME001.14
19	A paperweight consists of a frustum of a square pyramid, side of base 70 mm at the bottom, 40 mm at the top and 20 mm height. It is surmounted by a cylinder of 30 mm diameter with spherical knob of 40 mm diameter at the top such that the center of the sphere is at a height of 25 mm from the top of the frustum. Draw the isometric projection of the assembly.	Understand	CAME001.14
20	Draw the isometric view of the object whose orthographic projections are given in fig. All dimensions are in mm. 	Understand	CAME001.14

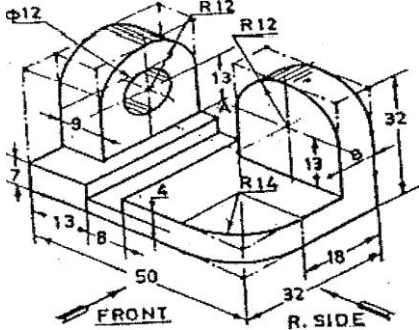
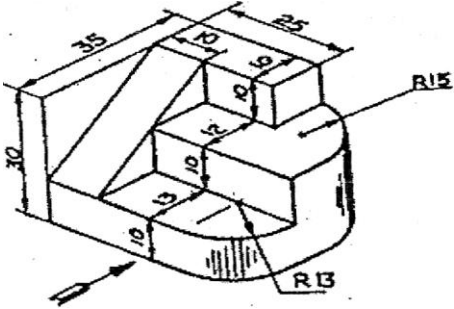
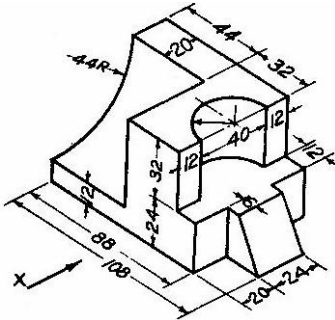
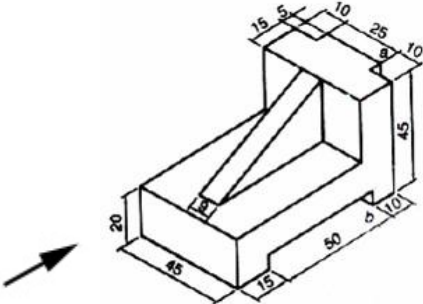
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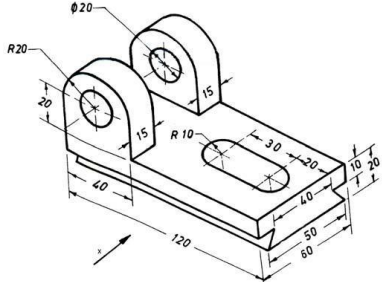
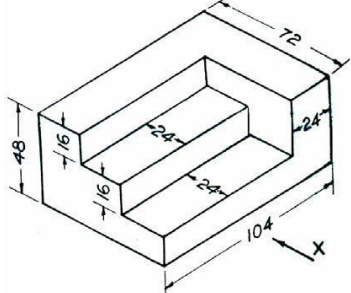
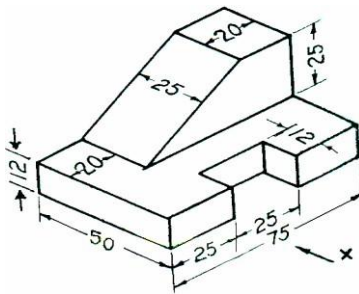
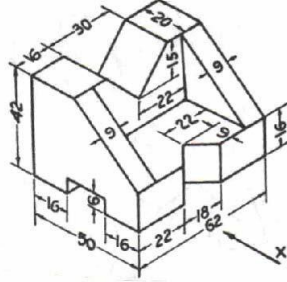
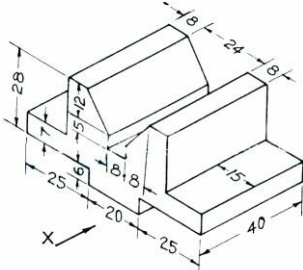
#### TRANSFORMATION OF PROJECTIONS

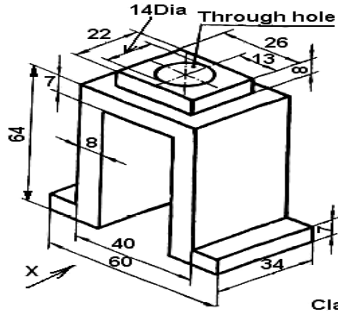
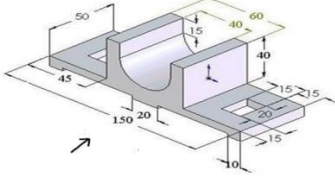
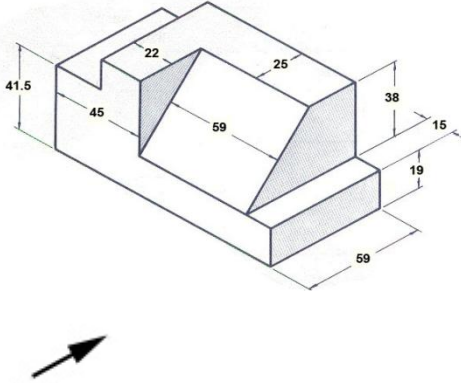
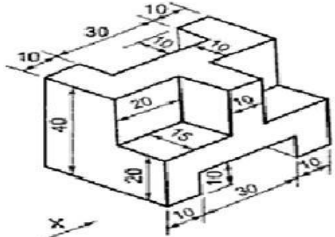
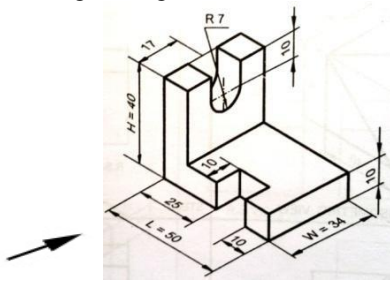
S No	QUESTIONS	Blooms Taxonomy level	Course Learning Outcomes
1	Draw the following views of the object given in figure. All dimensions are in mm. I. Front view II. Top view III. Both side views 	Remember	CAME001.12
2	Draw the front view, top view and side view of the object whose isometric view is shown in the figure below (All dimensions are in mm). 	Remember	CAME001.12

3	<p>Draw top, front and side views of the isometric projection given in the figure.</p> 	Remember	CAME001.12
4	<p>Draw the front view, top view and side view of the object whose isometric view is shown in the figure below (All dimensions are in mm).</p> 	Remember	CAME001.12
5	<p>Draw the orthographic projections of the part shown in figure. All dimensions are in mm. (i) Elevation (ii) Plan (iii) left side view.</p> 	Remember	CAME001.12
6	<p>Draw the orthographic projections of the machine part shown in figure (i) Elevation (ii) Plan (iii) Right side view. All dimensions are in mm.</p> 	Understand	CAME001.12



<p>7</p>	<p>Draw the orthographic projections of the machine part shown in figure</p> <p>I. Front View  II. Top View  III. Right side view.</p> <p>All dimensions are in mm.</p> 	<p>Remember</p>	<p>CAME001.12</p>
<p>8</p>	<p>Draw the orthographic projections of the parts shown in Fig</p> <p>I. Front View  II. Top View  III. Both side views.</p> <p>All dimensions are in mm.</p> 	<p>Remember</p>	<p>CAME001.12</p>
<p>9</p>	<p>Draw the orthographic projections of the part shown in figure below</p> <ul style="list-style-type: none"> <li>• Front View</li> <li>• Top View</li> <li>• Both side views.</li> </ul> <p>All dimensions are in mm</p> 	<p>Understand</p>	<p>CAME001.12</p>
<p>10</p>	<p>Draw front view, top view and side view of the model shown below:</p> 	<p>Remember</p>	<p>CAME001.12</p>

11	<p>Draw the necessary orthographic views for the isometric view of the object shown below:</p> 	Remember	CAME001.12
12	<p>Draw front view, top view and left side view of the model shown below:</p> 	Understand	CAME001.12
13	<p>Draw the orthographic views of the isometric view shown in the following figure:</p> 	Remember	CAME001.12
14	<p>Draw front view, top view and left side view of the model shown below:</p> 	Remember	CAME001.12
15	<p>Draw the necessary orthographic views for the isometric view of the object shown below:</p> 	Understand	CAME001.12

16	<p>Draw the Orthographic views of the isometric view shown in the following figure:</p> 	Remember	CAME001.12
17	<p>Draw the elevation, plan and end view from the right of the casting shown in figure.</p> 	Remember	CAME001.12
18	<p>Draw the front view, right side view and top view of the given figure.</p> 	Understand	CAME001.12
19	<p>Draw the orthographic views for the figure shown below.</p> 	Remember	CAME001.12
20	<p>Draw the orthographic views for the given fig.</p> 	Remember	CAME001.12