

# Multi choice Questions

## 0. Introduction to Engineering Graphics

- 1 Which tool can be used to draw a 90 degree angle?  
A) 30/60 triangle      B) Protractor      C) Drafting machine      D) All of the above
- 2 Which set of lead grades has a grade out of sequence?  
A) H, HB, B, 3B      B) 7B, H, F, 3H      C) 6B, B, H, 4H      D) 9H, HB, B, 2B
- 3 Which type of line is part of a dimension?  
A) Break lines      B) Phantom lines      C) Extension lines      D) Cutting plane lines
- 4 Which type of line is particular to section drawings?  
A) Break lines      B) Phantom lines      C) Extension lines      D) Cutting plane lines
- 5 Which angle cannot be made with either a 45 or 30/60 triangle or a combination of the two?  
A) 90      B) 70      C) 30      D) 15
- 6 A drawing instrument set usually contains all of the following, except:  
A) Bow compass      B) Scale      C) Dividers      D) Extra leads
- 7 Which line type is thin and light?  
A) Visible lines      B) Center lines      C) Construction lines      D) All of the above
- 8 Which line type is thick and black?  
A) Visible lines      B) Center lines      C) Construction lines      D) All of the above
- 9 Which type of line has precedence over all other types of lines?  
A) A hidden line      B) A center line      C) A visible line      D) None of the above
- 10 Which statement(s) is true about the precedence of lines?  
A) A hidden line has precedence over a center line      B) A center line has precedence over a visible line      C) A visible line has precedence over a miter line      D) All of the above
- 11 When you want to make the letters of a line of text narrower, you would set its:  
A) Aspect      B) Scale      C) Alignment      D) Font
- 12 When you want to make sure that all of the text stays to the right of a given point on the

- drawing, you would set its:
- A) Aspect                      B) Scale                      C) Alignment                      D) Font
- 13 The primary unit of measurement for engineering drawings and design in the mechanical industries is the
- A) Millimeter                      B) Centimeter                      C) Meter                      D) Kilometer
- 14 To draw the leader line, which type of the following line is used?
- A) Continuous thick line                      B) Long chain thin line                      C) Continuous thin wavy line                      D) Continuous line
- 15 A French curve is used to draw
- A) Circle                      B) Ellipse                      C) Smooth free form curve                      D) Polygon
- 16 A drafter helps in drawing
- A) parallel and perpendicular lines                      B) concentric circles                      C) Smooth curves                      D) All of above
- 17 Which of the following pencil leads is hardest?
- A) HB                      B) H                      C) B                      D) F
- 18 To draw smooth curve of any nature, draughting instruments used is
- A) Mini-drafter                      B) French curve                      C) Templates                      D) Eraser shield
- 19 Parallel lines can be drawn with the help of
- A) Mini-drafter                      B) T-square                      C) Pair of set squares                      D) All of these
- 20 "A" series of paper has length to width ratio of approximately
- A) 3:2                      B)  $\sqrt{3}:1$                       C)  $\sqrt{2}:1$                       D) 5:3

**ANSWER KEYS:**

1	D	4	D	7	C	10	A
2	B	5	B	8	A	11	A
3	C	6	D	9	C	12	C
13	A	14		15	C		

## 1. ENGINEERING SCALE

- 1 Which one of the following is not a reduction scale?  
A) 1:1                      B) 1:200                      C) 5/320                      D) 5:6
  - 2 For drawing of small instruments, watches etc. the scale used is  
A) Reduced scale                      B) Full scale                      C) Enlarged scale                      D) None of these
  - 3 When the drawing are drawn smaller than the actual size of object then scale is known as  
A) Reduced scale                      B) Enlarged scale                      C) Full scale                      D) None of these
  - 4 If the 10m length is represented as 1 mm on the map then representative fraction is  
A) 1/100                      B) 1/1000                      C) 1/10                      D) None of these
  - 5 The R.F. of scale is always  
A) Less than 1                      B) Equal to 1                      C) Greater than 1                      D) Any of these
  - 6 The unit of R.F. is  
A) Cubic centimeter                      B) Square centimeter                      C) Centimeter                      D) None of these
  - 7 The full form of R.F. is  
A) Reducing fraction                      B) Representative                      C) Reduction factor                      D) Representative  
fraction                      factor
  - 8 A map of 10 cm X 8 cm represents an area of 50000sq. meter of a field. The R.F. of the scale is  
A) 1/25                      B) 1/625                      C) 1/2500                      D) 1/6250000
  - 9 An area of 36 square kilometer is represented by 144 square centimeter on a map. What is the R.F. ?  
A)  $\frac{1}{4}$                       B)  $\frac{1}{2}$                       C) 1/5000                      D) 1/50000
  - 10 When measurements are required in three consecutive units, the appropriated scale is  
A) Plain scale                      B) Diagonal scale                      C) Isometric scale                      D) Scale of cords
  - 11 In the diagonal scale, the word "diagonal" is used because it is most suitable for the measurement of  
A) Diameter of a                      B) Diagonal of a                      C) Side of a pentagon                      D) All of these

circle

square

12 For scale, which one is not correct

(a) 1:2

(b) 1:20

(c) 1:1/2

(d) 1/2

**ANSWER KEYS:**

1	<b>A</b>	2	<b>A</b>	3	<b>A</b>	4	<b>D</b>
5	<b>D</b>	6	<b>D</b>	7	<b>B</b>	8	<b>C</b>
9	<b>D</b>	10	<b>B</b>	11	<b>D</b>	12	<b>D</b>

## 2. Engineering Curve

- 1 What type of curve is created by the intersection of a plane parallel to the side of cone?  
A) parabola                      B) hyperbola                      C) ellipse                      D) roulette
- 2 What type of curve is created by the intersection of a plane with a cone which makes an angle with the axis greater than the angle between the side of the cone and the axis?  
A) parabola                      B) hyperbola                      C) ellipse                      D) roulette
- 3 A(n) \_\_\_\_\_ is created by the motion of a point on a circle as the circle rolled along a straight line.  
A) epicycloid                      B) hyperbola                      C) cycloid                      D) spiral
- 4 A circle will appear on an isometric drawing as a(n) \_\_\_\_\_.  
A) ellipse                      B) cycloid                      C) circle                      D) parabola
- 5 The curve generated by a point on the circumference of a circle, which rolls without slipping along outside of another circle is known as  
A) Hypocycloid                      B) Epicycloid                      C) Cycloid                      D) Trochoid
- 6 In the game of cricket, a ball is thrown from the boundary and reaches the gloves of the wicket keeper, the curve traced out will be  
A) Hyperbola                      B) Involute                      C) Parabola                      D) Cycloid
- 7 A curved traced out by a point which moves uniformly both about the centre and at the same time away or towards the centre is known as  
A) Involute                      B) Archemidian                      C) Cycloid                      D) None of above  
spiral
- 8 The eccentricity of which of the following curve is greater than one?  
A) Ellipse                      B) Parabola                      C) Hyperbola                      D) None of above
- 9 If the generating point is on the generating circle and the generating circle is outside the directing circle, the curve obtained is:  
(a) Inferior                      (b) epicycloids                      (c) hypocycloid                      (d) superior trochoid  
hypotrochoid

- 10 When the plane cuts the cone parallel to the generator, the curve traced out is  
(a) ellipse (b) parabola (c) hyperbola (d) triangle

**ANSWER KEYS:**

1	<b>A</b>	2	<b>B</b>	3	<b>C</b>	4	<b>A</b>
5	<b>B</b>	6	<b>C</b>	7	<b>B</b>	8	<b>C</b>
9		10					

### 3. Projections of Point & LINE

- 1 The Intersection of a plane surface with the horizontal plane is a line and is call\_\_\_\_\_  
A) Horizontal Trace      B) Vertical Trace      C) Profile Trace      D) Trace
- 2 The Intersection of a plane surface with the Vertical plane is a line and is call\_\_\_\_\_  
A) Horizontal Trace      B) Vertical Trace      C) Profile Trace      D) Trace
- 3 The intersection of a plane surface with the profile plane is line and is call\_\_\_\_\_  
A) Horizontal Trace      B) Vertical Trace      C) Profile Trace      D) Trace
- 4 If a line is inclined to H.P., its plan will\_\_\_\_\_.  
A) be perpendicular to XY line      B) be parallel to XY line      C) show the true length      D) None of the above
- 5 \_\_\_\_\_ number Traces Produced if Required Will Meet On xy Line.  
A) 1      B) 2      C) 3      D) 4
- 6 Straight Line of projection Will Make an angle with xy Line to the angle of plane with other principal plane.  
A) Perpendicular      B) Equal      C) Right angle      D) Zero
- 7 When a point is above H.P. and behind V.P., the point is resting in which quadrant?  
A) 1st      B) 2nd      C) 3rd      D) 4th
- 8 When a point is above H.P. and in front of V.P., the point is resting in which quadrant?  
A) 1st      B) 2nd      C) 3rd      D) 4th
- 9 When a point is below H.P. and in front of V.P., the point is resting in which quadrant?  
A) 1st      B) 2nd      C) 3rd      D) 4th
- 10 When a point is below H.P. and behind V.P., the point is resting in which quadrant?  
A) 1st      B) 2nd      C) 3rd      D) 4th
- 11 If a line is parallel to H.P., its front will be \_\_\_\_\_ to XY line.  
A) Perpendicular      B) Parallel      C) Inclined      D) None of the above

- 12 If a line is parallel to V.P., its top view will be \_\_\_\_\_ to XY line.  
 A) Perpendicular      B) Parallel      C) Inclined      D) None of the above
- 13 If a line is inclined to V.P., its elevation will \_\_\_\_\_.  
 A) be perpendicular to XY line      B) be parallel to XY line      C) show the true length      D) None of the above
- 14 If a line is inclined to the Vertical Plane and parallel to Horizontal Plane, then which of the following statements is always CORRECT?  
 A) True Length = Plan Length      B) True Length  $\neq$  Plan Length      C) True Length > Elevation Length      D) True Length = Elevation Length
- 15 When a line is inclined to VP and parallel to HP, the front view will be \_\_\_\_\_ to xy.  
 A) parallel      B) perpendicular      C) inclined at angle  $\phi$       D) non on these
- 16 When the front view of line having a length less than the original length then which of the following is correct?  
 A) Line is inclined to H.P.      B) Line is inclined to both H.P. and V.P.      C) Line is inclined to V.P.      D) (B) and (C) both

**ANSWER KEYS:**

1	A	2	B	3	C	4	B
5	B	6	B	7	B	8	A
9	D	10	C	11	B	12	B
13	B	14	A	15	A	16	D



#### 4. Projections of Plane

- 1 When a plane is parallel to H.P and perpendicular to V.P and P.P always \_\_\_\_\_ first  
A) T.V.                      B) S.V.                      C) B.V.                      D) F.V
- 2 A Plane surface has \_\_\_\_\_ Dimension.  
A) 0                      B) 1                      C) 2                      D) 3
- 3 Three Dimensional Drawing of the plane in the given position, We can visualize that Elevation will be \_\_\_\_\_ of the same size.  
A) Plane                      B) Circular Plane                      C) straight line                      D) None of this
- 4 Plane is perpendicular to one of the principal planes the projection on that plane will be \_\_\_\_\_  
A) Line                      B) Straight line                      C) Curve                      D) Perpendicular line
- 5 Projection of plane in two other planes due to inclination will not show \_\_\_\_\_ shape.  
A) Inclination                      B) Plane                      C) Line                      D) TRUE
- 6 Trace on other Principal Plane will be \_\_\_\_\_ Line to xy Line.  
A) Perpendicular line                      B) Projection of line                      C) Perpendicular Plane                      D) a,b both
- 7 When a plane is parallel to V.P and perpendicular to H.P and P.P always \_\_\_\_\_ first  
A) T.V.                      B) S.V.                      C) B.V.                      D) F.V
- 8 A viewing direction which is perpendicular to the surface in question gives a(n) \_\_\_\_\_ view.  
A) inclined                      B) normal                      C) oblique                      D) perspective
- 9 A viewing direction which is parallel to the surface in question gives a(n) \_\_\_\_\_ view.  
A) inclined                      B) normal                      C) edge                      D) perspective
- 10 When a surface of an object is inclined to a plane of projection, it will appear

- \_\_\_\_\_ in the view.
- A) foreshortened      B) in true size and shape      C) as a line      D) as a point
- 11 Depending on its relationship to the projection plane on which the view is projected, a line may project:
- A) true length      B) foreshortened      C) as a point      D) all of the above
- 12 If a surface on an object is parallel to one of the principal planes of projection, then the angular relationship of that surface to at least two other principal projection planes is:
- A) parallel      B) perpendicular      C) inclined      D) unknown
- 13 Straight Line of projection Will Make an angle with xy Line to the angle of plane with other principal plane.
- A) Perpendicular      B) Equal      C) Right angle      D) Zero
- 14 The Intersection of a plane surface with the horizontal plane is a line and is call \_\_\_\_\_
- A) Horizontal Trace      B) Vertical Trace      C) Profile Trace      D) Trace
- 15 The Intersection of a plane surface with the Vertical plane is a line and is call \_\_\_\_\_
- A) Horizontal Trace      B) Vertical Trace      C) Profile Trace      D) Trace
- 16 The intersection of a plane surface with the profile plane is line and is call \_\_\_\_\_
- A) Horizontal Trace      B) Vertical Trace      C) Profile Trace      D) Trace
- 17 When a plane is parallel to H.P and perpendicular to V.P and P.P always \_\_\_\_\_ first
- A) T.V.      B) S.V.      C) B.V.      D) F.V.
- 18 When a plane is parallel to V.P and perpendicular to H.P and P.P always \_\_\_\_\_ frist
- A) T.V.      B) S.V.      C) B.V.      D) F.V.
- 19 A square plate of negligible thickness is inclined to HP. The front view will appear as
- A) Rhombus      B) Square      C) Line      D) Rectangle
- 20 If the object lies in the second quadrant, its position with respect to reference plane will be

- (a) In front of V.P. and above H.P.      (b) Behind V.P. and below H.P.      (c) In front of V.P. and below H.P.      (d) Behind V.P. and above H.P.

**ANSWER KEYS:**

1	A	2	C	3	A	4	B
5	D	6	A	7	B	8	B
9	C	10	A	11	D	12	B
13	B	14	A	15	B	16	C
17	A	18	D	19	A		

## 5. Projections & Sections of Solid

- 1 This type of solid has two bases that are parallel equal polygons:  
A) pyramid                      B) prism                      C) cone                      D) torus
- 2 The solid having a polygon for a base and triangular lateral faces intersecting at a vertex is  
A) pyramid                      B) prism                      C) cone                      D) torus
- 3 Among the following solids, a regular polyhedron is  
A) square prism                      B) square pyramid                      C) cube                      D) sphere
- 4 A solid having minimum number of faces is  
A) tetrahedron                      B) triangular prism                      C) square pyramid                      D) cube
- 5 The number of face in a dodecahedron are  
A) 4                      B) 8                      C) 12                      D) 20
- 6 The number of stages that are necessary to get the orthographic views of a solid having its axis inclined to both reference planes is  
A) 1                      B) 2                      C) 3                      D) 4
- 7 A tetrahedron is resting on its face on the H.P. with a side perpendicular to the V.P. Its front view will be  
A) equilateral                      B) isosceles triangle                      C) scalene triangle                      D) right-angle triangle
- 8 A square pyramid is resting on a face in the V.P. The number of dotted lines which will appear in the front view is  
A) 1                      B) 2                      C) 3                      D) 4
- 9 The solid, which will have two dotted lines in the top view when it is resting on its face in the H.P. is  
A) square pyramid                      B) pentagonal pyramid                      C) hexagonal pyramid                      D) all of these
- 10 A cube is resting on the H.P. with a solid diagonal perpendicular to it. The top view will appear as

- A) square                      B) rectangle                      C) irregular hexagon                      D) regular hexagon
- 11      A right-circular cone resting on a point of its base circle in the H.P. has the axis inclined at  $30^\circ$  to the H.P. and  $45^\circ$  to the V.P. The angle between the reference line and top view of the axis will be  
A)  $30^\circ$                       B) between  $30^\circ$  and  $45^\circ$                       C)  $45^\circ$                       D) more than  $45^\circ$
- 12      A right-circular cone resting on a generator in the H.P. has the axis inclined at  $30^\circ$  to the H.P. and  $45^\circ$  to the V.P. The angle between the reference line and top view of the axis will be  
A) less than  $45^\circ$                       B)  $45^\circ$                       C) more than  $45^\circ$                       D) any of these
- 13      A cylinder rests on a point of its base circle in the H.P., having the axis inclined at  $30^\circ$  to the H.P. and  $60^\circ$  to the V.P. The inclination of the top view of the axis with the reference line will be  
A)  $30^\circ$                       B)  $60^\circ$                       C)  $90^\circ$                       D) none of these
- 14      A cutting plane cut the cone such a way that true shape of cutting portion is seen as triangle when cutting plane is cut the base and passed through \_\_\_\_\_  
A) midpoint of axis                      B) apex of cone                      C) generator of cone                      D) any point on axis
- 15      Another name for a cube is a  
A) hexahedron                      B) tetrahedron                      C) isocohedron                      D) octahedron
- 16      Another name for a tetrahedron is a  
A) triangular prism                      B) square prism                      C) triangular pyramid                      D) square pyramid
- 17      A(n) \_\_\_\_\_ cone has two planar surfaces parallel to each other.  
A) truncated                      B) frustum                      C) right                      D) oblique
- 18      The solid having a polygon for a base and triangular lateral faces intersecting at a vertex is  
A) pyramid                      B) prism                      C) cone                      D) torus
- 19      Name the solid formed by four equilateral triangle  
A) Square pyramid                      B) Triangular pyramid                      C) Tetrahedron                      D) Square prism
- 20      A cylinder standing on the HP is cut by a vertical plane parallel to the axis and away from it.

- The shape of the section will be  
 A) Rectangle                      B) Circle                      C) Ellipse                      D) Hyperbola
- 21 When the axis of the solid is parallel to both HP and VP the view which reveals the true shape of the base is  
 A) Front view                      B) Top view                      C) Side view                      D) None of these
- 22 Name the solid formed by revolving right angle triangle with one of its perpendicular side fixed  
 A) Cone                      B) Cylinder                      C) Tetrahedron                      D) Octahedron
- 23 When the cone, resting on base on V.P., is cut by section plane parallel to V.P. then the true shape is \_\_\_\_\_ and can be seen in \_\_\_\_\_ view.  
 A) Circle, Front                      B) Ellipse, Front                      C) Ellipse, Top                      D) Circle, Top
- 24 To obtain the true shape of the section of solid, an auxiliary plane is set  
 A) Inclined at an angle of 45° to a cutting plane                      B) parallel to XY                      C) Parallel to a cutting plane                      D) perpendicular to a cutting plane

**ANSWER KEYS:**

1	B	2	A	3	C	4	A
5	C	6	C	7	B	8	B
9	D	10	D	11	D	12	C
13	C	14	B	15	C	16	C
17	A	18	A	19	C	20	A
21	C	22	A	23	A	24	C

## 6. Orthographic Projections

- 1 What types of sketch are typically used in the refinement stage of the design process?  
A) isometric                      B) document                      C) oblique                      D) ideation
- 2 What type of sketch incorporates convergence?  
A) isometric                      B) perspective                      C) oblique                      D) multi view
- 3 What type of sketch shows the front in true shape?  
A) isometric                      B) perspective                      C) oblique                      D) axonometric
- 4 What is the major difference(s) between perspective and parallel projection?  
A) Parallel projection can only be used with objects containing parallel edges.  
B) perspective projection gives a more realistic representation of an object  
C) parallel projection is equivalent to a perspective projection where the viewer is standing infinitely far away  
D) perspective projection can only be used for creating oblique and not isometric pictorials
- 5 What type of sketch uses a miter line?  
A) a two-view multiview                      B) an isometric pictorial                      C) a three-point perspective pictorial                      D) a three-view multi view
- 6 Where do the projection lines converge in a perspective sketch?  
A) the vanishing point                      B) the ground line                      C) the horizon line                      D) the eye point
- 7 The selection of the front view in executing a multi view drawing of an object is dependent upon the following factors:  
A) Size and shape of the object and their relationship to all views.  
B) The number of principal views required and the related auxiliary views needed to describe the object.  
C) The greatest contour shape, the related dashed lines, and the position of use.  
D) the size of the object, size of the paper, position of use, and least number of hidden lines

- 8 All of the following statements about multi view drawings are true, except:
- |                                       |                                     |                                     |  |
|---------------------------------------|-------------------------------------|-------------------------------------|--|
| A) each view is a 3-D pictorial image | B) based on orthographic projection | C) at least two views of the object | D) views are defined by planes of projection |
|---------------------------------------|-------------------------------------|-------------------------------------|--|
- 9 Which type of projection does not have the projection rays parallel to each other?
- |                           |                       |                            |                           |
|---------------------------|-----------------------|----------------------------|---------------------------|
| A) axonometric projection | B) oblique projection | C) orthographic projection | D) perspective projection |
|---------------------------|-----------------------|----------------------------|---------------------------|
- 10 Which is not a principal view?
- |           |              |              |          |
|-----------|--------------|--------------|----------|
| A) bottom | B) left side | C) auxiliary | D) front |
|-----------|--------------|--------------|----------|
- 11 Principle planes will appear as:
- |                           |                            |                                    |                           |
|---------------------------|----------------------------|------------------------------------|---------------------------|
| A) normal planes or edges | B) oblique planes or edges | C) normal planes or oblique planes | D) skewed planes or edges |
|---------------------------|----------------------------|------------------------------------|---------------------------|
- 12 In orthographic projection, visual rays or lines of sight for a given view are \_\_\_\_\_ to each other.
- |                  |            |           |             |
|------------------|------------|-----------|-------------|
| A) perpendicular | B) oblique | C) normal | D) parallel |
|------------------|------------|-----------|-------------|
- 13 What two types of projections give a pictorial view of the object without convergence?
- |                                 |                            |                            |                               |
|---------------------------------|----------------------------|----------------------------|-------------------------------|
| A) orthographic and perspective | B) oblique and axonometric | C) perspective and oblique | D) isometric and orthographic |
|---------------------------------|----------------------------|----------------------------|-------------------------------|
- 14 Inclined planes in a three-view drawing will appear as:
- |                              |                              |                |                               |
|------------------------------|------------------------------|----------------|-------------------------------|
| A) two surfaces and one edge | B) two edges and one surface | C) three edges | D) foreshortened in each view |
|------------------------------|------------------------------|----------------|-------------------------------|
- 15 Oblique planes in a three-view drawing will appear as:
- |                              |                              |                |                   |
|------------------------------|------------------------------|----------------|-------------------|
| A) two surfaces and one edge | B) two edges and one surface | C) three edges | D) three surfaces |
|------------------------------|------------------------------|----------------|-------------------|
- 16 Normal planes in a three-view drawing will appear as:
- |                              |                   |                              |                |
|------------------------------|-------------------|------------------------------|----------------|
| A) one surface and two edges | B) three surfaces | C) one edge and two surfaces | D) three edges |
|------------------------------|-------------------|------------------------------|----------------|



- 17 What are the three principle planes in orthographic projection?  
A) front, top, profile    B) back, top, profile    C) top, front, right side    D) frontal, horizontal, profile
- 18 The top view of an object should typically be drawn:  
A) to the right of the front view.    B) anywhere on the same page.    C) directly above the front view.    D) on a separate piece of paper.
- 19 A horizontal surface of a multi view drawing will appear as a(n) \_\_\_\_\_ in the front view.  
A) edge    B) normal surface    C) point    D) foreshortened surface
- 20 Which view is usually developed first, contains the least amount of hidden lines, and shows the most contours in multi view drawings?  
A) right side    B) top    C) back    D) front
- 21 A sphere can be described in how many views?  
A) 4    B) 3    C) 2    D) 1
- 22 An asymmetric object is usually described by how many views?  
A) 6    B) 3    C) 4    D) 2
- 23 An axially symmetric object, such as one turned on a lathe, normally can be shown in \_\_\_\_\_ view(s).  
A) one    B) two    C) three    D) four
- 24 In orthographic projection, visual rays are \_\_\_\_\_ to the projection plane.  
A) parallel    B) adjacent    C) perpendicular    D) tangent
- 25 The top and right side views have what common dimension(s)?  
A) height and width    B) width and depth    C) height    D) depth
- 26 For orthographic projection, the engineering custom in the United States dictates the use of:  
A) first-angle    B) second-angle    C) third-angle    D) fourth-angle

- projection                      projection                      projection                      projection
- 27 For orthographic projection, the engineering custom in Europe dictates the use of:  
 A) first-angle projection                      B) second-angle projection                      C) third-angle projection                      D) fourth-angle projection
- 28 The sequence for the direction of view (or line of sight) for any orthographic projection as utilized in the United States is:  
 A) eye of observer>projection plane>object                      B) eye of observer>object>projection plane                      C) projection plane>object>eye of observer                      D) projection plane>eye of observer>object
- 29 Good practice dictates that the characteristic contour shape of the object be shown in what view?  
 A) top                      B) front                      C) right side                      D) any side
- 30 The height, width, and depth of an object can be shown with a minimum of how many orthographic projection views?  
 A) six                      B) three                      C) two                      D) four
- 31 Which of the following pairs of orthographic views both show the height dimension?  
 A) left side and front                      B) top and front                      C) top and rear                      D) bottom and right side
- 32 In the first angle projection method, the view seen from left is placed on  
 A) Above Front View                      B) Right of Front View                      C) Above Top View                      D) Above Top View
- 33 Second angle projection is not used because  
 A) Plan is above xy                      B) both views overlap each other                      C) elevation is above xy                      D) views are small in size
- 34 If the object lies in third quadrant, its position with respect to reference planes will be  
 A) In front of VP, above HP                      B) Behind VP, above HP                      C) Behind VP, below HP                      D) In front of VP, below HP

- 35 If the object lies in the second quadrant, its position with respect to reference plane will be  
 A) In front of V.P. and above H.P.    B) Behind V.P. and below H.P.    C) In front of V.P. and below H.P.    D) Behind V.P. and above H.P.
- 36 In a third angle projection method, right hand side view of an object is drawn \_\_\_\_\_ front view.  
 A) Left side of    B) Right side of    C) Rear side of    D) None of above
- 37 Fourth angle projection is not used because  
 A) Front view is above reference line and top view is below reference line    B) Top view is above reference line and front view is below reference line    C) Front view and top view both overlap on each other and below reference line    D) Front view and top view both overlap on each other and above the reference line
- 38 For the third angle projection method, Which of the following is correct?  
 A) Observer - Object - Plane    B) Observer – Plane – Object    C) (A) and (B) both    D) None of above
- 39 In orthographic view the lines Perpendicular to arrow X are drawn as  
 (1) Parallel to XY in Plan (2) Parallel to XY in elevation (3) Perpendicular to XY in Elevation  
 (a) 1    (b) 2    (c) 3    (d) 1&2

**ANSWER KEYS:**

1	<b>B</b>	2	<b>B</b>	3	<b>C</b>	4	<b>B, C</b>
5	<b>D</b>	6	<b>A</b>	7	<b>D</b>	8	<b>A</b>
9	<b>D</b>	10	<b>C</b>	11	<b>A</b>	12	<b>D</b>
13	<b>B</b>	14	<b>A</b>	15	<b>B</b>	16	<b>A</b>
17	<b>D</b>	18	<b>C</b>	19	<b>A</b>	20	<b>D</b>
21	<b>D</b>	22	<b>B</b>	23	<b>B</b>	24	<b>C</b>
25	<b>D</b>	26	<b>C</b>	27	<b>A</b>	28	<b>A</b>
29	<b>B</b>	30	<b>C</b>	31	<b>A</b>	32	<b>B</b>
33	<b>B</b>	34	<b>C</b>	35	<b>D</b>	36	<b>A</b>
37	<b>C</b>	38	<b>B</b>	39			



## 7. Isometric Projections

- 1 If a client of yours is having difficulty visualizing a design, what type of drawing would be the easiest to understand?  
A) axonometric      B) three-view      C) one-view      D) bimetric  
   orthographic      orthographic
- 2 Which of the following is not a pictorial drawing?  
A) isometric      B) multi view      C) perspective      D) axonometric
- 3 Which of the following projection methods does not use projectors perpendicular to the projection plane?  
A) isometric      B) orthographic      C) oblique      D) axonometric
- 4 A circle will appear on an isometric drawing as a(n) \_\_\_\_\_.  
A) ellipse      B) cycloid      C) circle      D) parabola
- 5 An axonometric drawing which has two axes divided by equal angles is:  
A) diametric      B) trimetric      C) orthographic      D) isometric
- 6 An axonometric drawing which has all three axes divided by equal angles is:  
A) diametric      B) trimetric      C) orthographic      D) isometric
- 7 In a trimetric drawing, the relationship of the angle between axes to each other is:  
A) three are equal      B) two are equal      C) three are unequal      D) none of the above
- 8 In an isometric sketch of a cube:  
A) the frontal face appears in its true shape      B) the receding axes are at 45 degrees to the horizontal      C) all faces are equally distorted      D) only the depth distances must be reduced
- 9 In isometric drawings:  
A) Two axes are perpendicular      B) True measurements can be made only along      C) All faces are unequally distorted      D) None of the above

or parallel to the  
isometric axes

- 10 In an axonometric drawing, the projection rays are drawn \_\_\_\_\_ to each other and \_\_\_\_\_ to the plane of projection.  
A) parallel.....oblique    B) oblique.....parallel    C) Parallel ..perpendicular    D) parallel....parallel

11 One method of drawing an ellipse that represents an isometric pictorial circle is known as:  
A) the box construction method    B) the coordinate construction method    C) the four-center approximation method    D) the offset construction method

12 Non-isometric lines are located and sketched how?  
A) They are drawn parallel to the isometric axis.  
B) They are measured using the angle from the multi view.  
C) They are measured using a non-isometric template.  
D) They are located by determining the endpoints of the non-isometric line.

13 In an oblique sketch of a cube:  
A) the frontal face appears in its true shape  
B) both receding axes are at 30 degrees to the horizontal  
C) all faces are equally distorted  
D) the depth distances must be reduced

14 In an oblique drawing, all of the following angles are commonly used for drawing the depth axis, except:  
A) 30°    B) 45°    C) 60°    D) 90°

15 In an oblique drawing, the projection rays are drawn \_\_\_\_\_ to each other and \_\_\_\_\_ to the plane of projection.  
A) oblique.....oblique    B) oblique.....parallel    C) parallel.....oblique    D) parallel....parallel

16 A circle will appear on an isometric drawing as a(n) \_\_\_\_\_.  
A) ellipse    B) cycloid    C) circle    D) parabola

17 In isometric projection the three edges of an object are inclined to each other at  
A) 60    B) 120    C) 30    D) 90

- 18 A square lamina in isometric projection appears as  
A) Rhombus                      B) Rectangle                      C) Trapezium                      D) Parallelogram
- 19 In an isometric drawing, lines that are not parallel to the isometric axes are called  
A) dimetric lines                      B) trimetric lines                      C) non-isometric lines                      D) multi view lines
- 20 The projection showing the front in the true shape and size is  
A) isometric                      B) perspective                      C) oblique                      D) axonometric
- 21 Inclined planes in a three-view drawing will appear as  
A) two surfaces and one edge                      B) one surface and two edges                      C) three edges                      D) foreshortened in each view
- 22 This type of projection is when projectors are parallel to each other, but are at an angle other than 90 degrees to the plane of projection:  
A) perspective                      B) oblique                      C) aesthetic                      D) angular
- 23 While drawing the isometric view of the sphere, its diameter is taken as  
A) Equal to actual diameter                      B)  $11/9$  times of the actual diameter                      C)  $21/9$  times of the actual diameter                      D) none of the above
- 24 Two lines inclined at  $90^\circ$  in the orthographic view appear in isometric view to be inclined at  
A)  $60^\circ$                       B)  $90^\circ$                       C)  $120^\circ$                       D)  $180^\circ$
- 25 Length of a line 'L' in isometric drawing or view will be  
A)  $0.707 L$                       B)  $0.815 L$                       C)  $0.866 L$                       D) equal to length L
- 26 If D is the diameter of sphere, its value in isometric projection will be equal to  
A)  $\sqrt{3/2} D$                       B)  $\sqrt{2/3} D$                       C) D                      D) None of these
- 27 In isometric projection/drawing the ellipse is normally drawn by which method  
A) Arc of circle method                      B) Concentric circle method                      C) Four centre method                      D) Oblong method
- 28 The isometric view of a vertical line is represented at an angle of \_\_\_\_ in front view and

- having a length \_\_\_\_\_ the original length of line.
- A) 30 ° , Same as      B) 30 ° , Less than      C) 90 ° , Same as      D) 90 ° , Less than
- 29 The isometric projection of 90 mm line is \_\_\_\_\_ mm.
- A) 30\*(6) (1/2)      B) 30\*(3) (1/2)      C) 30\*(2) (1/2)      D) None of above
- 30 While drawing the isometric view of the sphere, its diameter is taken as
- (a) Equal to actual      (b) 11/9 times of the      (c) 21/9 times of the      (d) none of the  
diameter      actual diameter      actual diameter      `above
- 31 The isometric view of a vertical line is represented at an angle of \_\_\_\_ in front view and having a length \_\_\_\_\_ the original length of line.
- (a) 30o, Same as      (b) 90o, Same as      (c) 30o, Less than      (d) 90o, Less than

**ANSWER KEYS:**

1	A	2	B	3	C	4	A
5	A	6	D	7	D	8	C
9	B	10	C	11	A	12	D
13	A	14	D	15	C	16	A
17	B	18	D	19	C	20	C
21	D	22	D	23		24	
25		26		27		28	
29		30	A				