# ANSWERS

1. Section lines or cross-hatch lines are added to a section view to indicate surfaces that has be sectioned

2. Size, location ,notation

3. HALF SECTION :A half-section is a view of an object showing one-half of the view in section

4. FULL SECTION :If the imaginary cutting plane passes through the entire object, splitting the drawn object in two with the interior of the object revealed, this is called a "full section."

5. Leader lines are terminated with reference lines

6. scale = 5:1scale means the real length wound be multiplied by 5
   a. To get the scaled length

7. scale = 1:10 means the real length would be divided by 10  to give the scaled length

8. The symbol or variable for diameter, ⌀,(e.g. "⌀ 55 mm", )

9. r' is the symbol of radius (common) but 'R' too is used when two radius are given

10. □ is used to represent square

11. spherical radius is represented as SR

12. **Formation of parallel projections**

13. **Objects drawn using parallel lines to project its outline to the plain .When the three dimension of the object is represented in two dimensions and all the projection lines are orthogonal to the projection plane, resulting in every plane of the scene appearing in affine transformation on the viewing surface**

14. **First angle projection[1] is a types of Orthographic projection used to draw 3D objects in 2D plane. Symbol of First Angle projection: In 1st angle projection system, object is placed in the first quadrant and lies in between observer**



FIRST ANGLE PROJECTION
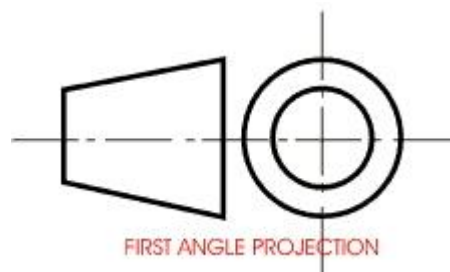
**and plane of projection.**

15. **In third angle projection, the observer is on the right side of the object and the orthographic view is projected on a plane located between the view point and the object. The right view is projected onto the right side of the front view and the top view is projected above the front view.**

THIRD ANGLE PROJECTION
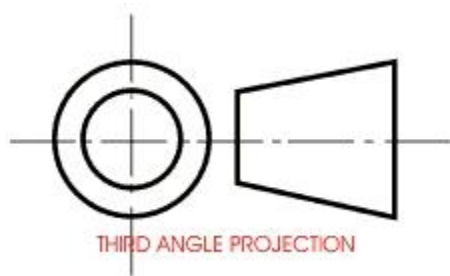
Objectives

1) **(a)Reference Plane**

2) **(b)FALSE**

3) **(c)DIRECTLY**

4) **(b)120º**

5) **(a)60º**

6) **(b)RIVET**

7) **(c)CROWNING**

8) **(b)45°**

9) **(a)An ellipse**

10) **(a)An Ellipse**

11) **ANSWER: C). A CYLINDER**

12) **ANSWER: A). A CONE**

13) **(c)Thrust Bearing**

**14)** **(c)55⁰**

**15)** **(d)HORIZONTAL PLANE**

# QUESTION AND ANSWERS

1. How do you represent a sectioned surface on a drawing?

   - **Section lines or cross-hatch lines are added to a section view to indicate surfaces that has be sectioned**

2. List out the various principles to be followed while dimensioning a drawing.

   - **Size, location ,notation**

3. Explain the terms, (*a*) half section, (*b*) Full section

   - **HALF SECTION :A half-section is a view of an object showing one-half of the view in section**

   - **FULL SECTION :If the imaginary cutting plane passes through the entire object, splitting the drawn object in two with the interior of the object revealed, this is called a "full section."**

4. How are leader lines terminated?

   - **Leader lines are terminated with reference lines**

5. What do you understand by, (a) scale = 5:1 and (b) scale = 1:10?

   - scale = 5:1scale means the real length wound be multiplied by 5

   To get the scaled length

   - scale = 1:10 means the real length would be divided by 10  to give the scaled length

6. Give the shape identification symbols for the following: (*a*) diameter, (*b*) radius, (*c*) square and (*d*) spherical radius.

*(a)* Centre line, (*b*) cutting plane line and (*c*) long break

- **The symbol or variable for diameter, ø,(e.g. "ø 55 mm", )**

- **r' is the symbol of radius (common) but 'R' too is used when two radius are given**

- **□ is used to represent square**

- **spherical radius is represented as SR**

7. What are the elements to be considered while obtaining a projection and what is an orthographic projection?

- **Formation of parallel projections**

8. When is a projection of an object called an orthographic projection?

- **Objects drawn using parallel lines to project its outline to the plain .When the three dimension of the object is represented in two dimensions and all the projection lines are orthogonal to the projection plane, resulting in every plane of the scene appearing in affine transformation on the viewing surface**

9. Explain the following, indicating the symbol to be used in each case: (*a*) First angle projection, (*b*) Third angle projection

- **First angle projection[1] is a types of Orthographic projection used to draw 3D objects in 2D plane. Symbol of First Angle projection:**



FIRST ANGLE PROJECTION
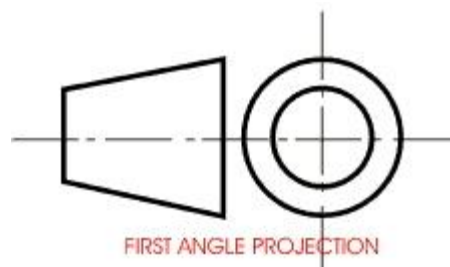
**In 1st angle projection system, object is placed in the first quadrant and lies in between observer and plane of projection.**

**In third angle projection, the observer is on the right side of the object and the orthographic view is projected on a plane located between the view point and the object. The right view is projected onto the right side of the front view and the top view is projected above the front view.**



THIRD ANGLE PROJECTION
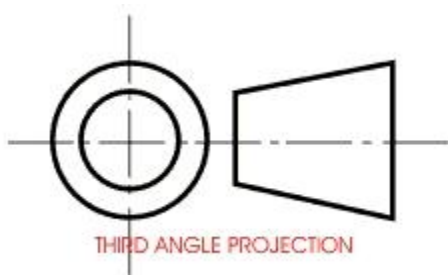
Objectives

a) To project the auxiliary view, an imaginary plane known as …… reference **plane**

b) **Reference Plane**

c) Principle plane

d) Normal plane

e) Inclined plane

1. Reference plane is parallel to the direction of view

   a) True

V

   **b) FALSE**

2. Dimension of one side of the inclined surface can be………………projected on the reference plan e

   a) Indirectly

   b) Equally

   c) **DIRECTLY**

   d) Normally

3. In isometric projection the three edges of an object are inclined to each other at

(a) 60º (b) **120º** (c) 100º (d) 90º

5. The angle between the flanks of a metric thread is **60°**

   (a) **60º** (b) 90° (c) 75° (d) 55°

6. Which one among the following represents a permanent fastener ……**Rivet**

a) Nut b) **RIVET** c) Screw d) Bolt

7. The convexity provided on the rim of the solid web cast iron pulley is called ..**CROWNING**

a) Bending b) Curving c) **CROWNING** d) Riveting

8. Section lines are generally inclined with the base, at an angle of **45°**

a) 30º b)**45°** c)60º d)90º

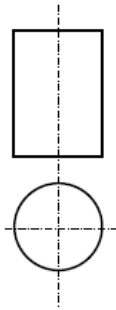9.       The isometric view of a sphere is always …..**AN ELLIPSE**

a) a circle **B) An Ellipse** circle c) a Parabola d) a Semicircle

10.      In isometric projection, the four center method is used to construct….**AN ELLIPSE**

**A) An Ellipse**b) a square c) a triangle d) a rectangle

11

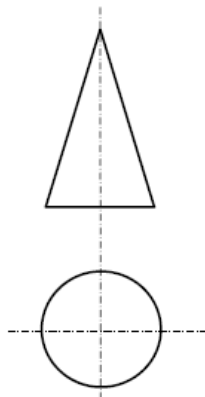(i)  With respect to the elevation and plan given below, name the solid



(a) Cone
(b) hexagonal prism
(c) cylinder
(d) hexagonal pyramid

**ANSWER: C). A CYLINDER**

12

(v)  With respect to the front view and top view given below, name the solid



(a) Cone
(b) Cylinder
(c) Cube
(d) Frustum

**ANSWER: A). A CONE**

A footstep bearing is a…..**THRUST BEARING**

a) journal bearing **B) Thrust Bearing** c) pivot bearing d) pedestal bearing

14.     The angle between the flanks of B.S.W. thread is….**55°**

a) 60° b) 65° **c) 55°** d)75°

15.     Top view is projected on the…..**HORIZONTAL PLANE**

a) Vertical Plane b) Corner Plane c) Side Plan**e D) HORIZONTAL PLANE**