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MATRIC NO: 18/ENG04/008

DEPARTMENT: ELECTRICAL/ELECTRONICS

COURSE CODE: ENG232

COURSE TITLE: ENGINEERING DRAWING II

ASSIGNMENT

THEORY

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

   A sectioned surface on a drawing can be represented by uniformly drawing lines across the surface that has been cut. The uniformly spaced lines are usually at 45^0 to the horizontal.

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

   i) Each dimension should be terminated by arrow heads touching the extension lines.
   ii) Dimension should be at least 10mm from the object outline.
   iii) Dimensions are preferably placed outside the outlines of the views.
   iv) All dimensions, extension lines should be represented by thin continuous lines and must be sharp.
   v) A dimension should never coincide with an object line or the center line.
   vi) The angular dimension should be measured in degrees.
   vii) Do not repeat dimensions of the same view in other views.
   viii) A dimension is useless if it can't be read easily.

3. Explain the terms

   (a) **Half section**: In half section, the cutting plane cuts half way through the part and removes one quarter of the material. The line that seperates the different types(interior and exterior) may be a center line or a visible line. Half section is used to show the object's interior and exterior part in the same view.

(b) **Full section**: In full section, the cutting plane cuts fully through the part. Normally a view is replaced with a full section view. The section-lined areas are those portions that have been in actual contact with the cutting plane. This is the most widely used sectional view.

4. How are leader lines terminated?

   Leader lines are used to indicate where dimensions or notes apply and are drawn as thin continuous lines and they are terminated with **arrow heads**.

5. What do you understand by

   (a) scale = 5:1

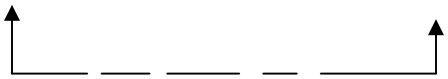
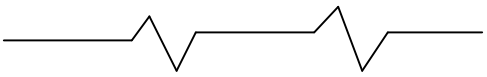
   This implies that the dimension of the drawing of the object is five times larger than the object itself. That is the dimensions have been multiplied by five(5).

   (b) scale = 1:10

   This implies that the dimension of the drawing of the object is ten times smaller that the object itself. That is the dimensions have been divided by ten(10).

6. Give the shape identification symbols for the following:

   - Diameter: ∅
   - Radius: R
   - Square: □
   - Spherical radius: SR

- Centre line:
- Cutting plane line: 
- Long break: 

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

   The elements to be considered are:

   - The front view
   - The top view
   - The plan
   - The sectional view

   b.) Orthographic projection is a method of projection in which an object is depicted using parallel to project its outline to a plane. It is a form of parallel projection, in which all the projection lines are orthogonal to the projection planes.

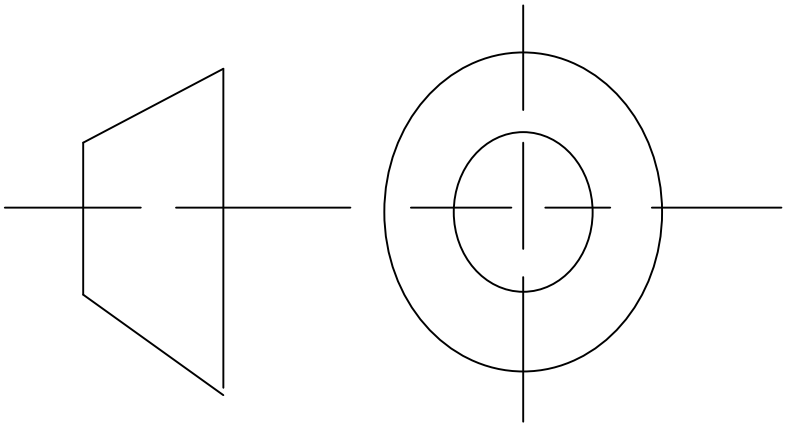
8. When is the projection of an object called an orthographic projection?

   The projection of an object is called an orthographic projection when the front view, side view, and the top view have been specified, which can either be drawn in first angle projection or third angle projection.

9. Explain the following, indicating the symbol to be used in each case:

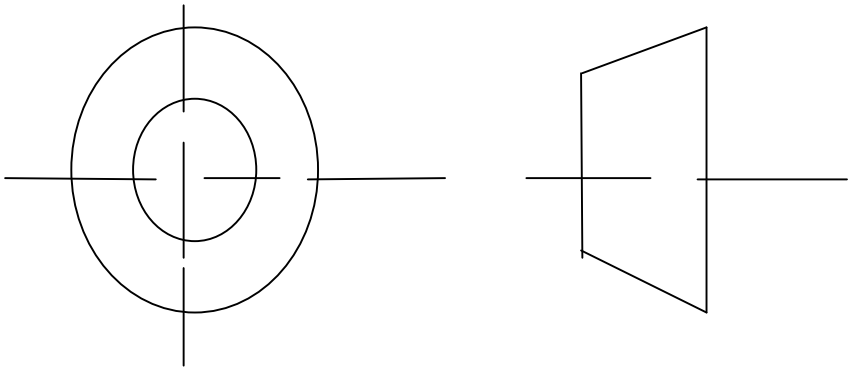
(a) **<u>First angle projection</u>:** In first angle projection, the object is supposed to be placed in the first quadrant. The plane of projection is believed to be opaque. In this projection, the object is positioned in front of the vertical plane and above the horizontal plane.

The symbol for first angle projection is given below:



<u>(*b*) Third angle projection</u>: In third angle projection, the object is supposed to be placed in the third quadrant. The plane of projection is believed to be transparent. In this projection, the object is positioned behind the vertical plane and below the horizontal plane.

The symbol for third angle projection is given below:



OBJECTIVE

1. To project the auxiliary view, an imaginary plane known as …….

Reference Plane (A)

2. Reference plane is parallel to the direction of view

False(B)

3. Dimension of one side of the inclined surface can be…….projected on the reference plane.

Directly(C)

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

120^o (B)

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

60^o(A)

6. Which one among the following represents a permanent fastener

Rivet(B)

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

Crowning(C)

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

45^o(B)

9. The isometric view of a sphere is always

A circle(A)

10. In isometric projection, the four center method is used to construct

An ellipse(A)

11.) **Cylinder(C)**

12.) **Cone(A)**

13. A footstep bearing is a

Pivot bearing(C)

14. The angle between the flanks of B.S.W. thread is

55^{o}(C)

15. Top view is projected on the

Horizontal Plane(D).