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ENGINEERING DRAWING 2 (ENG 232)

1. A sectioned drawing is represented through orthographic projection
2. Various Principles when dimensioning includes;
 - a. Dimension should be thin, sharp, dark lines. Extension lines are to be drawn perpendicular to the dimension lines. They indicate the points between which the dimension figures apply.
 - b. Dimensions should be terminated by arrowheads touching the extension lines and pointing in opposite directions.
 - c. Centre lines must never be used as dimension lines but must be left clear and distinct. They can be extended, however, when used in the role of projection lines.
 - d. Crossing of extension lines or dimension lines should be avoided if possible.
 - e. Dimensions shown with dimension lines and arrowheads should be placed to be read from the bottom of the drawing (unidirectional system).
 - f. A dimension line should never coincide with an object line or a center line, nor should it be an extension of these lines.
 - g. Dimensions are preferably placed outside the outlines of the views.
3. A half-section is a view of an object showing one-half of the view in section
Half Section is used to the exterior and interior of the part in the same view. ☐ The cutting-plane line cuts halfway through the part and removes one quarter of the material. ☐ The line that separates the different types (interior and exterior) may be a centerline or a visible line.

FULL SECTION VIEW

A full-section is a view of an object showing one-half of the view in section.

In a full section, the cutting plane line passes fully through the part. ☐ Normally a view is replaced with the full section view. The section-lined areas are those portions that have been in actual contact with the cutting-plane.

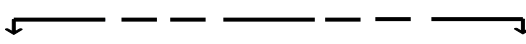
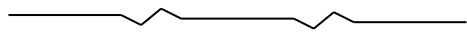
4. Leader lines

Leader lines should terminate (a) with a dot, if they end within the outlines of an object, (b) with an arrow head, if they end on the outline of an object, (c) without dot or arrow head, if they end on a dimension line.

5. The scale;

- a. 5:1 means that 5 units in the drawing represents 1 unit of the actual object in real life. In other words, the drawing is five times bigger than the actual object.
- b. 1:10 means that 1 unit in the drawing represents 10 units of the actual object in real life. In other words, the drawing is ten times smaller than the actual object in real life.

6.

- a. Diameter: \varnothing or DIA
- b. Radius: R
- c. Square: \square
- d. Spherical Radius: SR
- e. Center line: - - - - -
- f. Cutting plane line: 
- g. Long line break: 

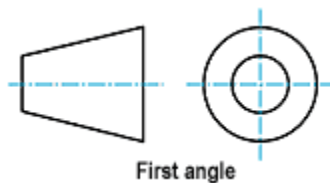
7. The object front, plan and top view are to be considered

Orthographic Projection is a way of drawing an 3 Dimensional object from different directions in 2 Dimensional form. Usually a front, side and plan view are drawn so that a person looking at the drawing can see all the important sides.

8. A projection which represents a 3 dimensional object in 2 dimensions showing the front, top and side view is said to be orthographic.

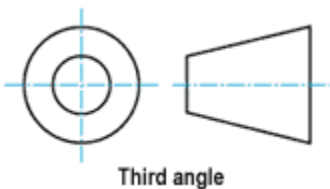
9. FIRST ANGLE ORTHOGRAPHIC PROJECTION

In this projection method, the object is placed in the first quadrant and is positioned in front of the vertical plane and above the horizontal plane.



THIRD ANGLE ORTHOGRAPHIC PROJECTION

In third angle projection, the 3D object to be projected is placed in the third quadrant and is positioned behind the vertical plane and below the horizontal plane.



OBJECTIVE SECTION

1. A- reference plane
2. A - True
3. C- Directly
4. A- 60 degrees
5. A- 60 degrees
6. B- Rivet
7. C- Crowning
8. B- 45 degrees
9. B- An ellipse
10. A- An ellipse
11. C- Cylinder
12. A- Cone
13. C- Pivot bearing
14. C- 55 degrees
15. D- Horizontal plane