

EbitU, Ukpoko Friday

18/ENG04/027

ENG 232

Electrical Electronics Engineering

1. You represent a sectioned surface by hatching it

2. i) A dimension, extension and leader lines should be thin, sharp dash lines (5mm/2H)

ii) A dimension line should never coincide with an object line or a center line, nor neither should it be an extension of these lines, both may be used as exterior lines

iii) Each dimension should be terminated by arrow heads touching the extension lines and pointing in opposite directions. Arrowheads are drawn freehand with 7mm/14 lead.

iv) Dimensions shown with dimension lines and arrowheads should be placed to be read from <sup>the</sup> bottom of the drawing

v) Crossing of extension line or dimension lines should be avoided if possible. Whereas such crossing are unavoidable, there should be no break in either lines. Furthermore, if extension lines cross dimension lines through the arrowheads, the extension line may be broken

3. Half Section: The view of an object showing one half of the view in section.

b Full Section: The view of an object made by passing the straight cutting plane completely through the part.

4. A leader line is terminated in a horizontal line with a note at one end

5 a) Scale = 5:1 means <sup>that</sup> the size of the real object was reduced by a factor of 5 on the drawing.

b) Scale = 1:10 means that the size/dimension of the real object was increased by a factor of 10 on the drawing.

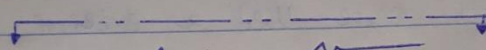
6 Diameter -  $\Phi$

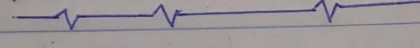
Radius - R

Square -  $\square$

Spherical radius - SR

Center Line - - - - -

Cutting plane - 

Long break - 

7 i) Dimensions which are parallel to the direction of viewing will not be seen.

ii) Edge which are parallel to the direction of viewing are seen as points/vertices. Surfaces which are parallel to the ~~direction of~~ <sup>it are seen as lines.</sup>

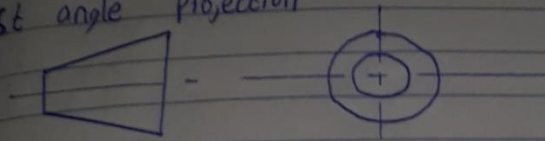
iii) The visible edges and the intersection of the surfaces are shown by object lines. But the hidden edges are shown by dotted lines.

iv) The Centre Lines of the Symmetrical part should be clearly shown.

b) Orthographic projection is a common method of representing three-dimensional objects usually by three-dimensional drawing in each of which of which the object is viewed along parallel lines that are perpendicular to the plane of the drawing.

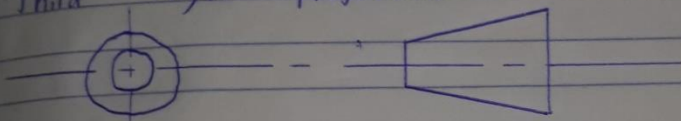
8 It is said to be an orthographic projection when the projection from the <sup>object</sup> are perpendicular to the projection plane.

### 1) First angle projection



In this projection method, the object is placed in the first quadrant and it's positioned in front of the vertical plane and above the horizontal plane. This projection is ~~referred~~.

### 2) Third angle projection



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

### Objectives

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