

NAME: EKUNDAYO OLUWATOBI FAVOUR

MATRIC NO: 18/ENG01/010

DEPARTMENT: CHEMICAL ENGINEERING




COURSE CODE: ENG232

COURSE TITLE: ENGINEERING DRAWING

## ASSIGNMENT ANSWERS

### THEORY ANSWERS

1. Section lines are very light lines. When drawing an object or part that requires a sectional view, they are drawn by eye at an angle of approximately 45 degrees and are spaced about 1/8 apart.
2.
  - Dimension and projection lines are narrow continuous lines about 0.35mm thick, if possible, clearly placed outside the outline of the drawing.
  - The drawing outline should be clearly defined and in contrast with the dimensioning system.
  - Arrowheads should be approximately triangular, must be of uniform size and shape and in every case touch the dimension line to which they refer.
  - Bearing in mind the size of the actual dimension and the fact that these may be two numbers together where limits of size are quoted, then adequate space must be left between rows of dimensions and a spacing of about 12mm is recommended.
  - Centre lines must never be used as dimension lines but must be left clear and distinct. They are extended, however, when used in the role of projection lines.
  - Dimension lines are quoted in millimetres (mm) to the minimum number of significant figures. For example 19 and not 19.0.
  - To enable dimensions to be read clearly, figures are placed so that they can be read from the bottom of the drawing, or by turning the drawing in a clockwise direction, so that they can be read from the right hand side.
  - Leader lines are used to indicate where specific indications apply. The leader line to the hole is directed towards the centre point but terminates in a dot within the outline of the component.
3.
  - A half section is a view of an object showing one half of the view in the section. If a cutting plane is passed through an object, and one-quarter of the object is removed, the resulting section is a half section.

- A full section is one in which the cutting plane passes through the entire object, splitting the drawn object into two with the interior of the object revealed.
4. Arrowheads are used in terminating leader lines.
  5.
    - 5:1 means that a drawing should be 5 times bigger than the original object.
    - 1:10 means that the drawing should be 10 times smaller than the original object.
  6.
    - Diameter: d
    - Radius: r
    - Square: 
    - Spherical radius: SR
    - Centre line: 
    - Cutting plane line: 
    - Long break:
  7. The elements to be considered are:
    - Which spatial properties do you want to preserve?
    - Where is the area you're mapping?
    - What shape is the area you're mapping?
    - How big is the area you're mapping?

Orthographic projection is a means of representing three-dimensional objects in two dimensions. It is a form of parallel projections, in which 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.

8. Projections are called orthographic projections when they show each side a drawing without perspective. i.e a 2D drawing of a 3D object.
9.
  - First angle projections is a method of creating s 2D drawing of a 3D object. In first angle projection, the projection is in the first quadrant and the object is between the observer and the plane of projection.
  - Third angle projection is a method of orthographic projection which is a technique of portraying a 3D design using a series of 2D views. In third angle projection, the object is placed in the third quadrant and the plane is between the observer and the object

## OBJECTIVE ANSWERS

1. Reference plane(A)
2. False(B)
3. Directly(C)
4.  $60^{\circ}$ (A)
5.  $60^{\circ}$ (A)

6. Rivet(B)
7. Crowning(C)
8.  $90^{\circ}$ (D)
9. A circle(A)
10. An ellipse(A)
11. Cylinder(C)
12. Cone(A)
13. Pivot bearing(C)
14.  $55^{\circ}$ (C)
15. Horizontal plane(D)