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MATRIC NUMBER:18/ENG01/002

DEPARTMENT: CHEMICAL ENGINEERING

COURSE CODE: ENGINEERING DRAWING

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

A sectioned drawing is represented by a cutting plane line known as section lining/ cross-hatching.

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

- **The dimensions should be given on such view which illustrates the true shape and size of an object.**
- **All the dimensions are given in group form, scattering of the dimensions is not correct.**
- **If possible all the dimensions should be given outside the view (the drawing) but can be given inside as well if unavoidable.**
- **The extension and dimensions lines should not intersect in any case and the extension line should have a gap of at least 1m from the drawing .**
- **The circles, arcs, and holes should be compatible with their radius or diameter.**

3. Explain the terms,

(a) Half section: this is a view of an object showing one-half of the view in section. It is used when an object is symmetrical in both outside and inside details. One half of the object is sectioned the other is shown as a standard view. The cutting plane is passed halfway through an object, and one-quarter of the object is

removed.

(b) Full section: **this is the cutting of a plane line passes fully through the part of the object that is cutting the object in a complete half. A full section is a complete detailed cross sectional drawing.**

4. How are leader lines terminated?

Leader lines are terminated by the use of arrowheads. Probably drawn arrowheads should be three times as long as they are wide.(leader lines are thin lines used to connect a specific note to a feature).


5. What do you understand by,

(a) scale = 5:1 **This simply means that the drawing of the object is five times larger than that of the object itself. This is indicating that the object actual size is too small to draw full scale.**

(b) scale = 1:10 **This simply means the actual size of the object is 10 times bigger than the drawing of the object. This simply means the object is too large to drawn to full scale**

6. Give the shape identification symbols for the following: (a) diameter (**⌀**)

(b) Radius (**R**),

(c) Square and 

(d) spherical radius **(SR)**.

(a) Centre line **(CL)**,

(b) cutting plane line and 

(c) (c) long break 

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

The element to be considered while obtaining a projection is the three dimensions which are; length, width, height/thickness.

Orthographic projection is a means of converting a three dimensional object to two dimensions. This simply means the different views of an object such as the front, end, and plan elevation is transferred onto a drawing surface in which the lines of projection are perpendicular to the drawing surface.

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

The projection of an object is called an orthographic projection when the principal planes or axes of an object are parallel with the projection line.

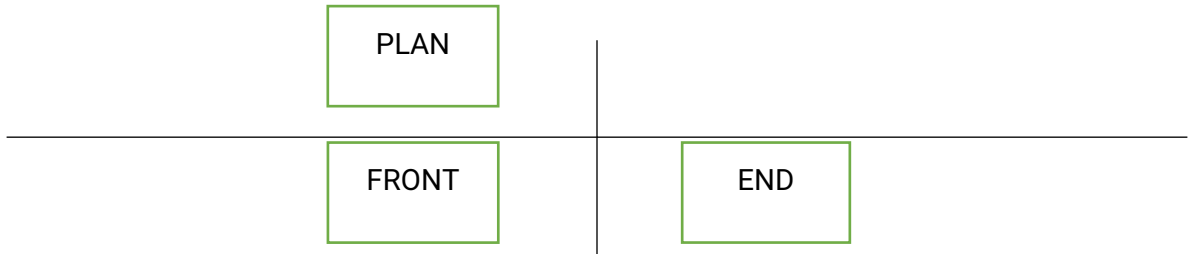
9. Explain the following, indicating the symbol to be used in each case:

(a) First angle projection; **the object is placed in the first quadrant meaning its placed between the plane projection and the observer**





(b) Third angle projection: **The object is placed below and behind the viewing planes meaning the plane of projection is between the observer and the object.**



Objectives

1. To project the auxiliary view, an imaginary plane known as **a) REFERENCE PLANE**
 - a) REFERENCE PLANE
 - b) Principle plane
 - c) Normal plane
 - d) Inclined plane
2. Reference plane is parallel to the direction of view **a) TRUE**
 - a) TRUE
 - b) False

3. Dimension of one side of the inclined surface can be **C) DIRECTLY** projected on the reference plane

a) Indirectly

b) Equally

c) **DIRECTLY**

d) Normally

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

B) 120

(a) 60° (b) 120° (c) 100° (d) 90°

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

(a) 60° (b) 90° (c) 75° (d) 55°

6. Which one among the following represents a permanent fastener **b) 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 **C)**

CROWING

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

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

a) 30° b) 45° c) 60° d) 90°

9. The isometric view of a sphere is always **a) CIRCLE**

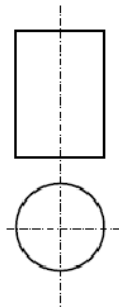
a) A CIRCLE b) an ellipse c) a Parabola d) a Semicircle

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

a) AN ELLIPSE b) a square c) a triangle d) a rectangle

11) **(C) CYLINDER**

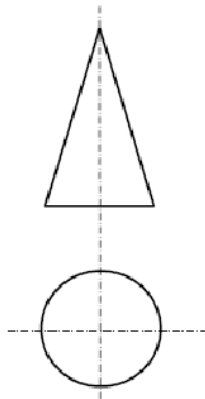
(i) With respect to the elevation and plan given below, name the solid



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

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



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

13. A footstep bearing is a **c) PIVOT 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 **c) 55**

a) 60° b) 65° c) 55° d) 75°

15. Top view is projected on the **d) HORIZONTAL PLANE**

a) Vertical Plane b) Corner Plane c) Side Plane d) HORIZONTAL PLANE