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**MATRIC. NUMBER:** 18/ENG05/007

**DEPARTMENT:** MECHATRONICS ENGINEERING

**COURSE CODE:** ENG232

**COURSE TITLE:** ENGINEERING DRAWING II

**THEORY**

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

* It is represented by cutting a plane line which means this section is produced by cutting an object by an imaginary plane, removing one part and reviewing a view of the effects of the dissection.

1. 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.
* As far as possible the dimensions should be given outside a view that can be given inside as well if unavoidable.
* All the dimensions are given in group form. Scattering is these will give an incorrect result.
* The dimensions should be intelligibly written.
* All the dimensions should be written parallel to the object line and the numbers should be written such that they could be read easily.
* The dimensions should be repeated where necessary.
* The leader line should be used for writing dimensions of the circle which should illustrate their diameter.
* As far as possible, on a drawing, dimensions should be expressed in one unit only (preferably in millimetres) showing only the unit symbol.
* Dimensions should be represented from a visible outline rather than from hidden lines.

1. Explain the terms:

* Half section: In this section, the cutting plane is assumed to bend at a right angle and cuts through only half of the represented object, not the full length; when the quarter of the object that was cut is removed, the remainder is called a “half-section”.
* Full section: In this section, The imaginary cutting plane passes through the entire object, splitting the drawn object in two with the interior of the object revealed.

1. How are leader lines terminated?

* Leader lines are terminated with arrow heads.

1. What do you understand by

* Scale 5:1 : This is multiplying the actual size of the drawing by 5/1, thereby increasing the size.
* Scale 1:10 : This is multiplying the actual size of the work by 1/10, thereby decreasing the size.

1. Give the shape identification symbols for the following

* Diameter: ᴓ
* Radius: R
* Square:
* Spherical radius: SR
* Centre line:
* Cutting plane line:
* Long break line:

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

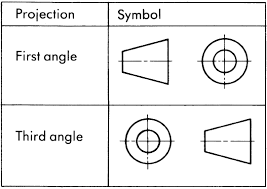
* Elements to be considered are front view, side view and plan view.
* An orthographic projection is a means of representing three dimensional objects with two dimensional drawings.

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

* When the figure is drawn in first or third angle elevation.

1. Explain the following indicating the symbols to be used in each case:

* First angle projection: This is a way of showing a 3D object on a 2D piece of paper, and it shows what a part looks like from each direction – top, bottom, left and right.
* Third angle projection: This is the direct opposite of the first angle projection.



**OBJECTIVES**

1. Reference plane - A
2. True – A
3. Directly – C
4. 120O – B
5. 60O – A
6. Rivet – B
7. Crowning – C
8. 45O – B
9. A Circle – A
10. An ellipse – A
11. Cylinder – C
12. Cone – A
13. Pivot bearing – C
14. 55O – C
15. Horizontal plane – C