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**MATRIC NO: 18/SCI14/025**

**DEPARTMENT: CIVIL ENGINEERING**

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

**When making a Multiview sketch , hidden edges and surfaces are usually with hidden(dash lines), Since they are used to set off a section they should be drawn in the right proportion**

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

1. **Dimensions should not be duplicated.**
2. **Dimensions should be attached to the view that best shows the contour of feature being**
3. **Wherever possible avoid dimensioning to hidden lines**
4. **Avoid dimensions over or through the object**
5. **Locate dimensions in adjacent views**
6. **In general a circle is measured by its diameter circle with line through it, and arc by its radius**
7. **A dimension line should never coincide with an object line**
8. **The crossing of dimension lines should be avoided if possible**
9. **Dimensions should be at least 3/8 from the object outline then equally spaced at least ¼ apart**
10. **Dimensions are preferably placed outside the outlines of the views.**
11. **Lettering should always be placed horizontal on the page , to be read from the bottom of the drawing**

**3 Explain the terms half section and full section**

**Half section: A half section expose the interior of one half of an object while retaining the exterior of the other half .Half sections are used mainly for symmetric objects or assembly drawings and a centre line is used to separate the two halves.**

**Full section: It is the imaginary cutting plane which passes through the entire object splitting the drawn object in two with the interior of the object revealed**

**4 How are leader lines terminated?**

1. **The dot: It is used to point to a face which terminates the leader line**
2. **The architectural tick: It is used to referring to multiple parallel edges**
3. **An arrow: It is used to point to an edge of an item which terminates leader line**

**5 What do you understand by (a) scale=5:1 (b) scale=1:10?**

**Scale 1:5 This can be defined as a 50mm scale and it is five times less than its original size or object shown**

**Scale 1:10 This can be defined as a drawing or scale that is ten times smaller than the original drawing or object which is being shown**

**6 Give the shape identification symbols for the following(a) diameter, (b) radius, (c) square (d) spherical radius (e) centre line (f) cutting plane line and (g) long break**

1. **Diameter (b) radius**

**Diame**

**C Square (d) spherical radius**

**E Centre line (f) Cutting plane line**

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

**Orthographic projection: It is a means of representing three dimensional objects in two dimensions. It is a form of parallel projection, 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 When is a projection of an object called an orthographic projection?**

**The observe of an orthographic projection is an oblique projection, which is a parallel projection lines are not orthogonal to the projection plane**

**9 Explain the following, indicating the symbol to be used in each case:(a) First angle projection (b) Third angle projection**

**First angle projection: It is a method of creating 2D drawing of a 3D object the object is placed in the first quadrant.**

**Third angle projection: This method the 3D object is to projected and it is placed in the third quadrant and is positioned behind the vertical plane and below the horizontal plane.**

**OBJECTIVES**

**1 Reference plane(a) 9 A circle(a)**

**2 False(b) 10 An ellipse(a)**

**3 Directly(c) 11 Cylinder (c)**

**4 120 (B) 12 Frustrum (d)**

**5 60 (a) 13 Pivot Bearing(c)**

**6 Rivet(b) 14 53 (c)**

**7 Crowning(c) 15 Horizontal plane(d)**

**8 45(b)**