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Department: Mechatronics Engineering

Course: Engineering Drawing

Objectives

1. A- reference
2. B- false
4. A- 60
5. A- 60
6. B- rivet
7. C- crowning
8. B- 45
9. B- an ellipse
10. A-an ellipse
11. C- cylinder
12. A- cone
13. C- pivot bearing
14. C- 55
15. D-horizontal plane

Theory

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

A sectioned surface can be represented using sectioning lines. These lines are used to indicate where the cutting plane cuts the material. Section lines are thin lines and are drawn at a 450 angle.

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

-All dimension, extension lines should be thin, sharp lines.

- The dimension lines should not touch the drawing. They should be about 2mm or 3mm between the drawing and dimension line.

- Lettering should be placed horizontally on the page so it can be read from the bottom of the page.

-All dimension lines should maintain equal spacing and distance from the drawing.

-The spacing between two rows of dimension lines should be about 12mm.

-Each dimension line should be terminated by an arrow head touching the extension lines.

3. Explain the term a) half section b) full section

Half section: half section is a view of an object showing one-half of the view in section. The cutting plane in this drawing extends the distance along the radius (quarter) and not along the diameter (center) of the object as in full section.

Full section: this is a more widely used sectioned view, if the imaginary cutting plane passes through the entire object, splitting the object in two with the interior of the object revealed ,this is a full section.

4. How are leader lines terminated?

The British technical drawing standards give four different types of terminators to use on leader lines,

-Closed filled

-Closed blank

-Dot

-Tick

5. What do u understand by a) scale =5:1 b) scale =1:10?

1. The scale 5=1 means that the drawing should be 5 times more than the actual size of original object.
2. The scale 1=10 means the drawing should be 10 times lesser in size than the original drawing or object.

6. Give the shape identification symbols for the following:

Diameter:

Radius: R

Square:

Spherical radius: SR

Centre line:

Cutting plane lines:

Long break: ------------------------------------------------

7. What is an Orthographic projection?

Orthographic projection is a graphical method used to represent three dimensional structures or objects into a two-dimensional drawing using different perspective projection called views. The view consists of front view, side view and top view.

8. When is a Projection of an Object called orthographic?

A drawing is orthographic when the object view changes from the original and it’s viewed along parallel lines that are parallel lines that are perpendicular to the plane of the drawing.

9. Explain the following a) first-angle projection b) Third-angle projection

First-angled projection is one the method of projection, the object is placed in the first quadrant and is positioned in front of the vertical plane and above the horizontal plane

Third-angle projection is another projection method, the object to be projected in the 3rd quadrant and is placed behind the vertical plane and below the horizontal plane.