Engineering Drawing Assignment Answers

TEJERE EFETOBORE LESLIE

18/**ENG02/093**

COMPUTER ENGINEERING

ENG 232

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

When sketching 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. Since they are used to set off a section, they must be drawn with care. It is best to use the symbol for the material being shown as a section on a sketch.

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

i)   Dimension and projection lines are narrow continuous lines 0.35 mm thick, if possible, clearly placed outside the outline of the drawing. As previously mentioned, the drawing outline is depicted with wide lines of 0.7 mm thick. The drawing outline will then be clearly defined and in contrast with the dimensioning system. The projection lines should not touch the drawing but a small gap should be left, about 2 to 3 mm, depending on the size of the drawing. The projection lines should then continue for the same distance past the dimension line.

ii)   Arrowheads should be approximately triangular, must be of uniform size and shape and in every case touch the dimension line to which they refer. Arrowheads drawn manually should be filled in. iii.) Arrowheads drawn by machine need not be filled in.

Bearing in mind the size of the actual dimensions and the fact that there 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 12 mm is recommended.

iv.) Centre lines must never be used as dimension lines but must be left clear and distinct. They can be extended, however, when used in the role of projection lines.

V.) Dimensions are quoted in millimeters to the minimum number of significant figures. For example, 19 and not 19.0. In the case of a decimal dimension, always use a nought before the decimal marker, which might not be noticed on a drawing print that has poor line definition. We write 0,4 and not .4. It should be stated here that on metric drawings the decimal marker is a comma positioned on the base line between the figures, for example, 5,2 but never 5-2 with a decimal point midway.

vi)   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.

vii)   Leader lines are used to indicate where specific indications apply. The leader line to the hole is directed towards the Centre point but terminates at the circumference in an arrow. A

leader line for a part number terminates in a dot within the outline of the component. The gauge plate here is assumed to be part number six of a set of inspection gauges.

3. Explain the terms, a) half section b) full section

Half section: - Is a view of an object showing one-half of the view in section. They can be used to show both the internal and outside view of symmetrical objects.

Full section: - It is the most widely-used sectional view, if the imaginary cutting plane passes through the entire object, splitting the drawn object in two with the interior of the object revealed, it is called a full section.

4. How are leader lines terminated?

Leader lines are thin, solid lines that can be terminated in an arrowhead or Dot.

5. What do you understand by, a) scale = 5.1 and b) scale = 1:10?

a)   Scale = 5.1: - this is an enlargement scale. It means that for 1mm should be multiplied by 5 while drawing that is "R"2mm=5*2=10mm.

b)   Scale = 1:10: - this is a ridiculous scale. It means that for 10mm should be taken as 1mm while drawing that is 20mm=20/10=2mm.

6. Give the shape identification symbols for the following: a) diameter b) radius c) square d) spherical radius

a) diameter: - "Ǿ"

b) radius: - "R"

c) square: - "□"

d) spherical radius: - "Ǿ"

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

Elements to consider while obtaining projections are: - the object, the plane of projection, the point in space.

Orthographic projection is a type of "parallel" projection in which the four orthogonal views of an object are shown.

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

 If the projection from the object is perpendicular to the projection plan, then such a projection of the object is known as orthographic projection.

9. Explain the following indicating the symbol to be used in each case: a) first angle projection b) third angle projection

First angle projection: - Is a method of creating a 2D drawing of a 3D object. On the drawing paper, the front view and the side view is drawn at the top while the plan view is drawn at the bottom under the front view.

b) Third angle projection: - Is a method of creating a 2D of a 3D object. On the drawing paper, the front view and the side view is drawn at the bottom while the plan view is drawn at the top of the front view.

OBJECTIVES

1. To project the auxiliary view, an imaginary plane known as ……………...

 Answer: - Reference plane (A)

2. Reference plane is parallel to the direction of view

 Answer: - False

3. Dimension of one side of the inclined surface can be …………....projected on the reference plane.

 Answer: -Directly (C)

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

 Answer: -120^0 (B)

5. The angle between the flanks of a metric thread is ………

 Answer: - 60^0 (A)

6. Which one among the following represents a permanent fastener

 Answer: -Rivet (B)

7.   The convexity provided on the rim of the solid web cast iron pulley is called……...

   Answer: -Crowning (C)

8.   Section lines are generally inclined with the base, at an angle of ………

   Answer: -45⁰(B)

9.   The isometric view of a sphere is always…...

10.   In isometric projection, the four center method is used to construct………

   Answer: - An Ellipse (A)

11.   with respect to the elevation and plan given, name the solid….

   Answer: - Cone (A)

12.   With respect to the front view and top view given, name the solid….

   Answer: - Cone (A)

13.   A footstep bearing is a……….

   Answer: - Thrust Bearing (B)

14.   The angle between the flanks of B.S.W. thread is……….

   Answer: - 55⁰(C)

15.   Top view is projected on the……….

   Answer: -Horizontal plane (D)