**ENG 232 QUESTIONS AND ANSWERS**

**TAWFIQ AZIMAZI**

**AERONAUTIC and ASTRONAUTICAL ENGINEERING**

**18/ENG09/001**

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

**ANS;**

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 material being shown as a section on a sketch.

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

**ANS;**

* 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 but can be given inside as well if unavoidable.
* All the dimensions are given in group form. Scattering of these is not correct.
* 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 extension and dimension lines should not intersect in any case.

1. **Explain the terms, (*a*) half section, (*b*) Full section**

**ANS;**

1. **HALF SECTION:** This is a view of an object showing one-half of the view in the section, the diagonal lines on the section drawing are used to indicate the area that has been theoretically cut.
2. **FULL SECTION:** This is when the imaginary cutting plane passes through the entire object, splitting the drawn object in two with the interior of the object revealed.
3. **How are leader lines terminated?**

**ANS;**

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

**ANS;**

1. Means a 50mm line is to be drawn at a scale of 5:1( ie 5 times more than its original size).
2. This scale means that the object is 10 times smaller than in real life.
3. **Give the shape identification symbols for the following: (*a*) diameter, (*b*) radius, (*c*) square and (*d*) spherical radius.**

***(e)*Centre line, (*f*) cutting plane line and (*g*) long break**

**ANS;**

1. **Diameter (b)radius**
2. Square (d) spherical radius

(e) Centre line

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

**ANS;**

This is a method of projection in which an object is depicted using parallel lines to project its outline on to a plane.

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

**ANS;**

When the line are orthogonal to the projection plane, resulting in every plane of the scen appearing on the viewing surface.

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

**ANS;**

1. **First angle projection:** a method of creating a 2D drawing of a 3D object.

**End view Front view**

**Plan view**

1. Third angle projection: this is used to portray a 3D design using a series of 2D views

Plan view

Side view Front view

Objectives

1. To project the auxiliary view, an imaginary plane known as ……………….
2. **Reference Plane**
3. Principle plane
4. Normal plane
5. Inclined plane
6. Reference plane is parallel to the direction of view
7. True
8. **False**
9. Dimension of one side of the inclined surface can be………………projected on the reference plane
10. Indirectly
11. Equally
12. **Directly**
13. Normally
14. In isometric projection the three edges of an object are inclined to each other at

(a) 60o (b) **120o** (c) 100o (d) 90o

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

1. **60o** (b) 90o (c) 75o (d) 55o

6. Which one among the following represents a permanent fastener

a) Nut b) **Rivet** c) Screw d) Bolt

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

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

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

a) 30o **b) 45o** c)60o d)90o

9. The isometric view of a sphere is always

**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** b) a square c) a triangle d) a rectangle

11 **ans; (C) cylinder**



12. **ans: cone**



13. A footstep bearing is a

a) journal bearing b) thrust bearing c) pivot bearing **d) pedestal bearing**

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

a) 60o b) 65o **c) 55o** d)75o

15. Top view is projected on the

a) Vertical Plane b) Corner Plane c) Side Plane **d) Horizontal Plane**