ENG 232 QUESTIONS

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

Ans: A sectioned surface is represented by cross-hatching ..450 to the center line.

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

* Dimension and extension lines are narrow continuous lines 0.35 mm thick, if possible, clearly placed outside the outline of the drawing.
* The extension lines should not touch the outline of the drawing feature and a small gap should be left, about 2–3 mm, depending on the size of the drawing.
* Arrowheads should be approximately triangular, must be of uniform size and shape and in every case touch the dimension line to which they refer.
* Adequate space must be left between rows of dimensions.
* Centre lines must never be used as dimension lines but must be left clear and distinct.
* Dimensions are quoted in millimeters to the minimum number of significant figures. For example, 19 and not 19.0.
* 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.
* Leader lines are used to indicate where specific indications apply. The leader line to the hole is directed towards the centre point, terminating at the circumference in an arrow.

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

Ans: Half section: Half Section is used to the exterior and interior of the part in the same view.

The cutting-plane line cuts halfway through the part and removes one quarter of the material.The line that separates the different types (interior and exterior) may be a centerline or a visible line.

Full section: In a full section, the cutting plane line passes fully through the part.

1. How are leader lines terminated?

Ans: **Leader** lines are **terminated** with an arrow touching the part or detail- On the end opposite the arrow, the **leader** line will have a short, horizontal shoulder (3 mm long).

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

Ans: (a) Means a 50mm line is to be drawn at a scale of 5:1( ie 5 times more than its original size). (b) This scale means that the object is 10 times smaller than in real life.

1. Give the shape identification symbols for the following: (*a*) diameter, (*b*) radius, (*c*) square and (*d*) spherical radius.
2. Diameter-The symbol Ø. e.g. Ø65 
3. Radius- R. e.g. R6 
4. Square
5. The letter S preceding the Ø symbol. E.g. SØ70
6. Centre line,

(*b*) cutting plane line

(*c*) long break

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

Ans: Orthographic projection is the graphical method used in modern engineering drawing. In order to interpret and communicate with engineering drawings a designer must have a sound understanding of its use and a clear vision of how the various projections are created. Orthographic projection is used as an unambiguous and accurate way of providing information, primarily for manufacturing and detail design. Orthographic views consist of one, two, or more separate aspects of an object taken from different directions & different sizes, generally at right angles to each other and arranged in a definite manner.

These views collectively describe the object. Orthographic views of any purpose can be represented by any one of the two systems of projection

The first angle projection and the third angle projection.

* Elements to be considered while obtaining a projection

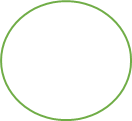
1. When is a projection of an object called an orthographic projection?

Ans: When the figure shows the view **of an object** projected to the same size by the visual rays coming from the observer at infinity which are parallel to themselves & perpendicular to the plane of projection. Since the visual rays, **called** projectors, are perpendicular, i.e., orthogonal to the plane of projection the view is **called** orthographic view ...It is a means of representing three-dimensional objects in two dimensions.

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

Ans: a) In the 1st angle projection system, objects are placed in the first quadrant. And it lies in between the observer and the plane of projection.

b) In the 3rd angle projection, objects are placed in the third quadrant and projection plane lies in between observer and the object.



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

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Ans: cylinder



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