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18/ENG05/031

MECHATRONICS ENGINEERING

ENG 232 QUESTIONS AND ANSWERS

1. How do you represent a sectioned surface on a drawing?
   Ans: they are drawn at an angle of approximately 45° and are spaced about 1/8" apart.
2. List out the various principles to be followed while dimensioning a drawing.
3. Ans:
   i) Dimension and extension lines are narrow continuous lines 0.35mm thick clearly placed outside the outline of the drawing.
   ii) The extension lines should not touch the outline of the drawing feature.
   iii) Arrowheads should be triangular and touch the dimension line to which they refer.
   iv) Center lines should be clear and distinct and must never be used as dimension lines.
   v) For dimensions to be read clearly, the figures are placed at the bottom of the drawing.
4. Explain the terms,
5. (*a*) half section:- symmetrical parts may be drawn half in section and half in outside views.
   (*b*) Full section:- when a cutting plane passes through an object.
6. How are leader lines terminated?
   Ans: They can be terminated with an arrowhead or a dot.
7. What do you understand by,
   (a) scale = 5:1:- the drawing is 5 times more than its original size.
   (b) scale = 1:10:- the drawing is 10 times smaller than its real life size 1:1
8. Give the shape identification symbols for the following:
9. (*a*) diameter:- ø
   (*b*) radius:- R
   (*c*) square:-
   (*d*) spherical radius:- Sø
10. What are the elements to be considered while obtaining a projection and what is an orthographic projection?
    Ans: The elements to be considered while obtaining projections are the object, the plane of projection and the point in space. An orthographic projection is a method of projection in which an object is depicted using parallel lines to project its outline on to a plane
11. When is a projection of an object called an orthographic projection?
   Ans: The projection of an object can be said to be orthographic when the axes of the object are parallel with the projection plane.
12. Explain the following, indicating the symbol to be used in each case:

(*a*) First angle projection :- In this type of projection, the object is imagined to be in the **first** quadrant.

(*b*) Third angle projection :-In this type of **projection**, the object is imagined to be in the **third** quadrant. Thus it is seen that in the **third angle projection** any view is so placed that it represents the side from the object nearest to it.
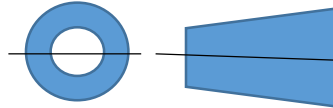
Objectives

1. To project the auxiliary view, an imaginary plane known as ……………….
    Ans: a) Reference Plane
2. Reference plane is parallel to the direction of view
    Ans: a) False
3. Dimension of one side of the inclined surface can be………………projected on the reference plane
    Ans: c) Directly
4. In isometric projection the three edges of an object are inclined to each other at

Ans: (b) 120º

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

Ans: a) 60º

6. Which one among the following represents a permanent fastener

Ans: b) Rivet

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

Ans: c) Crowning

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

Ans: b)45º
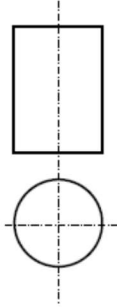
9. The isometric view of a sphere is always

Ans: a) a circle

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

Ans: a) an ellipse

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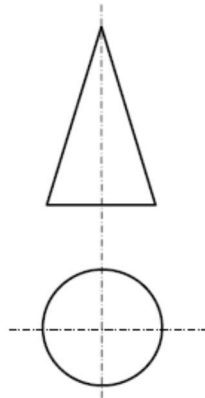(i) With respect to the elevation and plan given below, name the solid

(a) Cone

(b) hexagonal prism

(c) cylinder

(d) hexagonal pyramid

Ans: c) cylinder

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(v) With respect to the front view and top view given below, name the solid

(a) Cone

(b) Cylinder

(c) Cube

(d) Frustum

Ans: a) cone

13.   A footstep bearing is a
Ans: b) thrust bearing
14.   The angle between the flanks of B.S.W. thread is
Ans: c) 55°
15.   Top view is projected on the
Ans: d) Horizontal Plane