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MATRIC NUMBER: 18/ENG08/007
DEPARTMENT: BIOMEDICAL ENGINEERING
ENG 232 QUESTIONS

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

A sectional surface is represented on a drawing, using a section lining, this indicates the surface which has been exposed by the cutting plane.

2. List out the various principles to be followed while dimensioning a drawing.
 - a) All dimension, extension, and leader lines should be thin, sharp, dark lines
 - b) A dimension line should never coincide with an object line or a center line.
 - c) A dimension line may be used as extension lines.
 - d) If there are several parallel dimension lines in a group, the dimension figures should be staggered or positioned in a step by step form so that they will not interfere with one another.
 - e) Crossing of extension lines or dimension lines should be avoided if possible. Where such crossings are unavoidable, there should be no break in either of the lines.
3. Explain the terms, (a) half section, (b) Full section
 - a) A half-section is a view of an object showing one-half of the view in section.
 - b) A full section is the splitting of the drawn object in two with the interior of the object revealed.
4. How are leader lines terminated?
 - a) A leader line can be terminated by adding a closed filled or blank arrow head (used to point to an edge of an item) or by adding a dot(used to point to a face) or by adding a tick(used for referring to multiple parallel edges)
5. What do you understand by, (a) scale = 5:1 and (b) scale = 1:10?
 - a) scale 5:1 means that everything in reality is five times as small or 5 units in the drawing is equal to 1 unit in real life
 - b) Scale 1:10 means that 1 unit in the drawing is equal to 10 units in real life.

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


(a) Centre line, (b) cutting plane line and (c) long break

Diameter = \varnothing

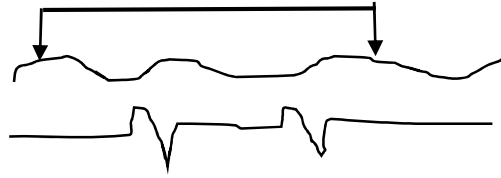
Radius = R

Square = \square

Spherical radius = SR

Centre Line = 

Cutting Plane line =
Long Break line =



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

Elements to be considered while obtaining a projection

- Length
- Width
- Height/Thickness
- The type of projection(isometric,oblique,pictorial,orthographic projections)
- The angle of projection(first or third angle projection)

Orthographic Projection is a type of projection that represents a three dimensional object in two dimension, it consist of three views; Front view, Top view and Side view, These views help in clarity and aids in communication when describing the object to another party

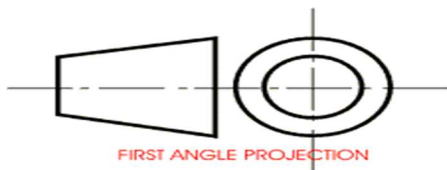
8. When a projection of an object is called an orthographic projection?

A projection of an object is called orthographic when all of the view are included on the same page. Normally, the front view is in the lower left corner, the top view is in the upper left corner and the side view is in the lower right corner

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

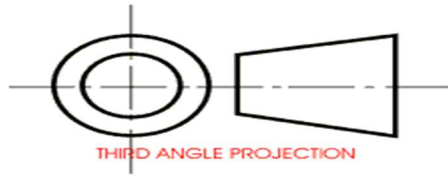
a) First angle projection is a method of creating a 2D drawing of a 3D object. In first angle, the object is placed in the first quadrant. This means that the vertical plane is behind the object and the horizontal plane is underneath the object.

Its symbol;



b) Third angle projection is a method of creating a 2D drawing of a 3D object. . In third angle, the object is placed in the third quadrant. This means that the plane of the projection is between the observer and the object.

Its symbol;



Objectives

1. To project the auxiliary view, an imaginary plane known as
 - a) **Reference Plane**
 - b) Principle plane
 - c) Normal plane
 - d) Inclined plane
2. Reference plane is parallel to the direction of view
 - a) True
 - b) **False**
3. Dimension of one side of the inclined surface can be.....projected on the reference plane
 - a) Indirectly
 - b) Equally
 - c) **Directly**
 - d) Normally
4. In isometric projection the three edges of an object are inclined to each other at
(a) 60° (b) **120°** (c) 100° (d) 90°
5. The angle between the flanks of a metric thread is
(a) **60°** (b) 90° (c) 75° (d) 55°

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) 30° b) **45°** c) 60° d) 90°

9. The isometric view of a sphere is always

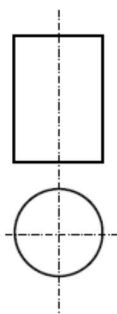
a) **a circle** b) an ellipse c) a Parabola d) a Semicircle

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



(a) Cone

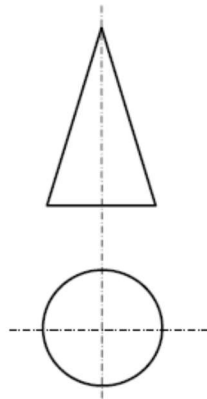
(b) hexagonal prism

(c) **Cylinder**

(d) hexagonal pyramid

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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

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) 60° b) 65° c) 55° d) 75°

15. Top view is projected on the

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