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1. **Exercise : 7** 2. **Date:** 18 Dec 2021

3. **Title** : Section of solids.

4. **Aim** : To draw the orthographic multi-view projection of sectioned solid like prisms/ cylinders and pyramids/ cones.

5. **Software used:** AutoCAD 2021.

6. **Introduction:** Section of solids:

→ An object (these a solid) is cut by some imaginary cutting plane to understand internal details of that objects. The action of cutting is called sectioning a solid & the plane of cutting is called section plane.

6.3 Terminology (with sketch):

→ The area of the top and bottom bases is the same, & is called the base area, B. The area of the side is known as the lateral area, L. The surface area of solid right circular cylinder is made up of all 3 component. top, bottom & side.

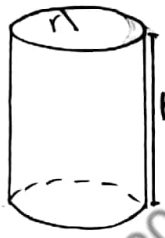
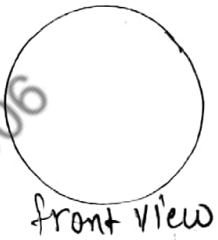
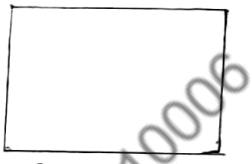


Fig.

6.2 Real time example - Picture





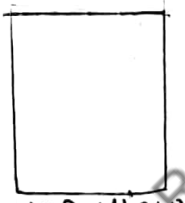
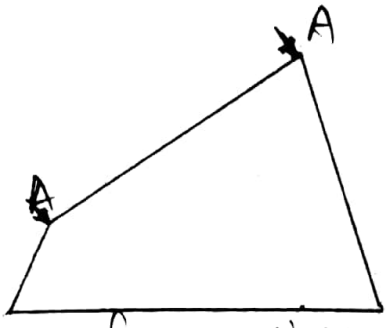
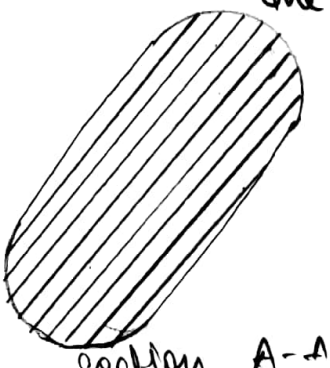


Fig.

7. **Procedure** (for solving question #):

7.1	Question outline	: To draw the orthographic projection of section solid.
7.2	Object	: Cone
7.3	Resting on Conditions	: On H.P
7.4	Other resting condition (if any)	:
7.5	Other condition (cutting plane)	: Cut the axis at a point 35mm from the apex





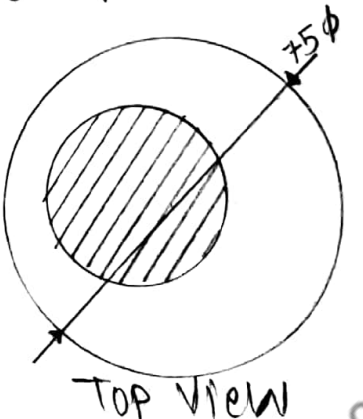


Fig. Free hand sketch of the solution to question #

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7.6 Procedure:

Step 1.

Set the limits, units and zoom(All) in drawing area.

Step 2:- Draw a cone of radius 75mm and axis height 80 mm.

Step 3:- Now, in front view draw a horizontal line of 100mm and rotate it to 45° and move the line from midpoint to 35mm from the apex.

Step 4:- By using section plane, remove the above part of the cone then generate the section give 1 as x and y factor. Then create the view using View Base.

8. Commands used:

S.N.	Command	Use
1.	Units	To specify units, precision.
2.	Limits	To set grid.
3.	Line	To create straight line.
4.	Zoom	To increase & decrease size.
5.	Cone	To create 3D solid & cone.
6.	Move	To move objects a specified dist.
7.	Section plane	To create section object/ cutting plane.
8.	Generate section	To opens the generate section.
9.	Model space	To generate the different views.
10.	Text.	To write text.
11.	Dim	To Accesses dimensioning.

9. Result:

Hence, by using AutoCAD, the projection of solids and sectional view can be drawn successfully.

Faculty Name	Lakshman Sir.	Date of Submission	
Signature		Marks