Draw the Projection of a cylinder whose diameter is 100 mm and length 120 mm. Cylinder is 40 mm from VP and lying on HP. Axis of the cylinder is at 60\* angle with VP and lying on HP.

(when the axis makes 60\* angle with VP, then the cylinder’s circular face makes 30\* with VP)

Step 1

Set the screen in mm with 420,297 as upper right corner measurement. Zoom -Auto should be ON along with ORTHO and OSNAP.

Step 2

Set the Dimensioning style.

Choose Dimstyle, go to Modify and click. Choose Symbol and Arrow. Because we are in mm, increase the Arrow size to 7. Go to Text and change the Text height to 10 and 7, Text Placement in Vertical as above, Offset from dim line to 3.0, and then Text alignment as Aligned with dimension line (in line with IS specification).

Step 3

Use Line command to draw XY line.

Draw the projection of the cylinder assuming it is parallel to HP and perpendicular to VP and NOT inclined at 30\* to the VP at the start.

Front view of the cylinder will be a circle (demonstrated during online class) with front face as 1’,2’,3’,4’,5’,6’,7’,8’ and a’,b’,c’,d’,e’,f’,g’,h’ as back face and nearer to the VP.

Top view becomes Rectangle with length of the cylinder as 120 mm and 40 mm from the VP.

Step 4

Use line command and draw abc overlapping on the existing abc line to get the center point through which the axis of the cylinder is passing

Copy the Rectangle with names where abcdefgh and 12345678 are captured and moved along side to the right suitably.

Use Rotate command and select the rectangle with all the identifications and consider the base point as c and rotate 30\*.

Step 5

Draw projectors from the inclined Top view up and Front view to the right.

Join the intersection to get the Front view of the cylinder when the cylinder is at 30\* angle with VP.

Step 6

Use PTYPE command for point identifications and then use Point command to identify the points of intersections

Step 7

Use Trim command and use the XY line as reference and clear all the projector lines above XY to get a better view of the points that make the ellipse.

Use Ellipse command and join the major axis end points and minor axis end point for the ellipse of the cylinder face which is away from the VP.

For the ellipse closer to VP, half of the ellipse arc is visible and half is not.

Use Ellipse Arc command to draw with continuous line which is visible and with dotted which is not.

Step 8

Use line command to make the cylinder. Join with continuous line which is visible and with dotted line which will be hidden in the Front view.