Department of Mechanical Engineering

ASSIGNMENT – 2

Projection of Lines

Department	**: Mechanical Engineering**	**Semester**	**: 1st Semester A**
Subject Name	**: Engineering Visualization**	**Subject code:**	**: 21EV15**
Maximum marks	**: 10**	**Publication Date**	**: 01/02/2022**
Staff In-charge	**: Dr. Raghavendra Reddy N V**	**Submission Date**	**: 10/02/2022**

Instructions

- Write your Name, Class, Section, USN/Roll number and assignment number in the all the sheets.
- Answer neatly and legibly in A4 size grid sheets / white sheets
- An incomplete assignment is NOT acceptable for submission.

Sl. No	Assignment Questions
1	Draw the projections of a line AB 100 mm long inclined at 45° to VP and 30° to HP. One end of the line is 20 mm above the HP and in the VP. Also determine the apparent length and inclinations.
2	A line has its end A 15 mm above HP and 10 mm in front of VP. The end B is 55 mm above HP and the line is inclined at 30° to HP. The distance between the end projector is 50 mm. Draw the projections of the line and determine the true length of the line and its inclination with VP.
3	The distance between the end projectors through the end points of a line AB is 40 mm. The end A is 20 mm above HP and 15 mm in front of VP. The end B is 45 mm in front of VP and 65mm above HP. The line AB appears 50 mm long in the top view. Complete the projections. Find the true length of the line and its inclination with HP and VP.
4	A line AB 80 mm long is inclined to HP at 30° and inclined to VP at 45°. Draw front and top views of line and determine their lengths. Also measure the perpendicular distance of end B from both HP and VP.
5	The front view of a 90 mm long line which is inclined at 45° to the XY line, measures 65mm. End A is 55 mm above the XY line and is in VP. Draw the projections of the line and determine its inclinations with HP and VP.
6	The front view of the line PQ 80 mm measures 50 mm and it is inclined to XY (reference line) at 50°. one end of the line P is 20 mm above the HP and 25 mm in front of VP. Draw the front view and top view of the line and find the inclinations of the line with HP and VP.

7	The distance between the end projectors through the end points of a line AB is 40 mm. The end A is 10 mm above HP and 15 mm in front of VP. The end B is 35 mm in front of VP. The line AB appears 70 mm long in the top view. Complete the projections. Find the true length of the line and its inclinations with HP and VP.
8	A straight-line PQ inclined at 40^o to VP has p q = 60 mm and p' q' = 50 mm. The end P is both in HP and VP, and 40 mm to the right of left profile plane a. Draw the projections of the straight-line PQ b. Find the true length and true inclination with HP c. Draw the profile view of the straight line. d. Find the position of the end Q with HP and VP
9	A straight-line PQ is inclined at 45^o to HP and 30^o to VP. The point P is in HP and the point Q is in VP. The length of the straight line is 65 mm. Draw the projections of the straight-line AB.
10	Find the true length and true inclinations of a line AB with HP having one of its ends 20 mm in front of VP and 30 mm above the HP. The line is inclined at 40^o to VP and the left side view of the line is 60 mm long and inclined at 60^o to the X_1Y_1. Draw all the three views of the line. And determine its true length and its inclinations to HP.
11	Draw the projections of a line PQ and find its apparent lengths, true length and true inclination with HP when the line PQ has its end P 25 mm above HP and 20 mm in front of VP. The distance between the end projectors of the line when measured parallel to the line of intersection of the HP and VP is 60 mm. The end Q is 50 mm above the HP and the line is inclined at 30^o to the VP.
12	One end of a line is 30 mm in front of VP and 30 mm above HP. The line is inclined at 40o to HP and its top view measuring 60 mm, is inclined at 50o to XY. Draw the projections of the line and determine true length and inclination with VP.