Assignment 2.2 (Projection of Lines)

1 (a) A 60 mm long line AB is parallel to both the H.P. and the V.P. It is 20 mm above the H.P. and 30 mm in front of the V.P. Draw its projections.

(b) A 55 mm long line PQ is perpendicular to the H.P. and 25 mm in front of the V.P. Draw its projections when one end of the line is 15 mm above the H.P.

(c) A 70 mm long line PQ is perpendicular to the H.P. and 30 mm in front of the V.P. End P of the line is on the H.P. Draw its projections.

2 (a) A 50 mm long line AB is perpendicular to the V.P. and 40 mm above the H.P. One end of the line is 10 mm in front of the V.P. Draw its projections.

(b) A 50 mm long line situated in the V.P. is parallel to the H.P. The line is at a distance of 40 mm from the H.P. Draw its projections.

(c) A 70 mm long line lies both on the H.P. and the V.P. Draw its projections.

3 (a) A 70 mm long line MN is inclined at 45° to the H.P. and parallel to the V.P. The end M is 15 mm above the H.P. and 25 mm in front of the V.P. Draw its projections.

(b) An 80 mm long line is inclined at 60° to the V.P. and parallel to the H.P. One end of the line is 30 mm above the H.P. and 10 mm in front of the V.P. Draw its projections.

4 (a) A 70 mm long line CD lying in the V.P. is inclined at 60° to the H.P. One end of the line 15 mm above the H.P. Draw its projections.

(b) A 70 mm long line PQ lying in the H.P. is inclined at 45° to the V.P. End P of the line is in the V.P. Draw its projections.

5 (a) A 70 mm long line has an end 40 mm above the H.P. and 20 mm in front of the V.P. The front view of the line is a point. Draw its projections and determine true inclination with the reference planes.

(b) A 70 mm long line AB is parallel to the V.P. and inclined to the H.P. The end A is 20 mm above the H.P. and 30 mm in front of the V.P. The top view of the line measures 45 mm. Draw its projections.

(c) The front view of an 80 mm long line PQ measures 50 mm. The line lies in the H.P. such that one end is 30 mm in front of the V.P. Draw the projections of the line and find its inclination with the V.P.

6 An 80 mm long line PQ is inclined at 45° to the H.P. and 30° to the V.P. The end P is in the H.P. and 40 mm in front of the V.P. Draw its projections.

7 A straight line PQ has its end P 15 mm above the H.P. and 60 mm in front of the V.P. The end Q is 45 mm above the H.P. and 10 mm in front of the V.P. If the end

projectors of the line are 60 mm apart, draw its projections. Determine the true length and true inclinations of the line with the principal planes.

8 A 90 mm long line PQ has the end P 20 mm above the H.P. and 35 mm in front of the V.P. The end Q is 80 mm above the H.P. and 60 mm in front of the V.P. Draw the projections of PQ and determine its true inclinations with the principal planes.

9 The front and top views of a straight line PQ measures 50 mm and 65 mm, respectively. The point P is on the H.P. and 20 mm in front of the V.P. The front view of the line is inclined at 45° to the reference line. Determine the true length of PQ and its true inclinations with the reference planes.

10 A 100 mm long line PQ is inclined at 30° to the H.P. and 45° to the V.P. Its mid-point is 35 above the H.P. and 50 mm in front of the V.P. Draw its projections.

11 The projections of line measure 80 mm in the top view and 70 mm in the front view. The midpoint of a line is 45 mm in front of V. P. and 35 mm above H. P. One end is 10 mm in front of V. P. and nearer to it. Draw the projections. Find true length and true inclinations with reference planes.