



**ST.ALOYSIUS INSTITUTE OF TECHNOLOGY, JABALPUR**  
**DEPARTMENT OF MECHANICAL ENGINEERING**  
**SUBJECT- ENGINEERING GRAPHICS (B.E-105)**  
**ASSINGMENT – II**

**(PROJECTION OF POINTS)**

- Q-1** Mark the projections of the following points on a common reference line: P 35 mm behind the VP and 20 mm below the HP. Q 40 mm in front of VP and 30 mm above the HP. R 50 mm behind the VP and 15 mm above the HP. S 40 mm below the HP and in the VP.
- Q-2** A point C is on HP and 15 mm behind VP. Another point D is also on HP and 40 mm in front of VP. The distance between their projectors is 45 mm. Join their front views and determine inclination of this line with XY line.
- Q-3** A point P is on HP and 20 mm in front of VP. Another point Q is also on HP and behind VP. The distance between their end projectors is 60 mm. Draw its projections if the line joining P & Q makes an angle of  $60^\circ$  with the reference line. Also find the positions of point P and Q.

**(PROJECTION OF LINES)**

- Q-4** A line PQ, 50 mm long is perpendicular to HP and 15 mm in front of VP. The end P is nearer to HP 20 mm above it. Draw the projections of the line.
- Q-5** A line PQ, 60 mm long has one end P, 20 mm above the HP and 35 mm in front of VP. The line is parallel to HP. The front view has a length of 50 mm. Find its true inclinations with VP.
- Q-6** A line NS, 80 mm long has its end N, 10 mm above the HP and 15 mm in front of VP. The other end S is 65 mm above the HP and 50 mm in front of VP. Draw the projections of the line and find its true Inclination with HP and VP.
- Q-7** The end P of a line PQ is 30 mm above HP and 35 mm in front of VP. The line is inclined at  $35^\circ$  to HP. Its top view is 70 mm long inclined at  $40^\circ$  to XY. Draw the projections of straight line. Find the true length and inclination of the line with VP.
- Q-8** A line MN has its end M, 15 mm in front of VP and 20 mm above the HP. The other end N is 55 mm in front of VP. The front view has a length of 80 mm. The distance between end projectors is 65 mm. Draw the projections of line. Find its true length and true inclinations
- Q-9** The midpoint of a line AB, 80 mm long, is 30 mm above HP and 45 mm in front of VP. The line is inclined at  $30^\circ$  to HP and  $50^\circ$  to VP. Draw the projections.
- Q-10** A straight line ST has its end S, 10 mm in front of VP and nearer to it. The midpoint 'm' of the line is 50 mm in front of VP and 40 mm above HP. The front and top view measure 90 mm and 120 mm respectively. Draw the projections of the line. Also, find the true inclinations with VP and the HP.
- Q-11** A line MN has its end M, 10 mm in front of VP and 15 mm above HP. The other end N is 50 mm in front of VP. The front view has a length of 70 mm. The distance between the end projectors is 60 mm. Draw the projections of the line. Find its true length, true inclinations and mark the traces.
- Q-12** The front view of a line makes an angle of  $30^\circ$  with the reference line. The H.T of the line is 30 mm in front of the V.P. while the V.T. is 20 mm below the H.P. One end of the line is 15 mm above the H.P. and the other end of the line is 100 mm in front of the V.P. Draw the projection of the line and determines its true length and true angles of inclination with the reference planes.