MECHANICAL ENGINEERING DEPARTMENT

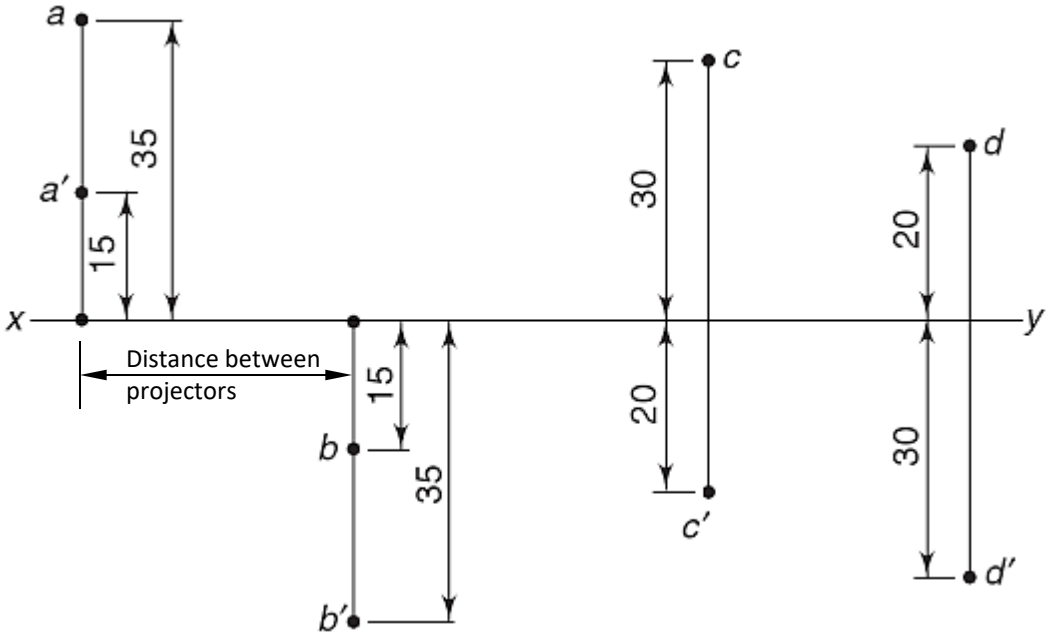
Course No.: UES101 Course Title: ENGG. DRAWING

Tutorial No. 2

(PROJECTION OF POINTS)

Note: **(Time: 1 Hour 40 minutes each)**

- ***Tutors to select three to four representative problems to be covered in the Auto CAD evaluation sessions.***
- ***Tutors to select rest of the problems to be covered in the practice sessions.***

1.	[This question is to be discussed by the Tutor (~5-10 minutes)] Orthographic projections of points A, B, C, and D are shown in Figure below. Read the views and state their positions with respect to H.P. and V.P. Also state the quadrant in which they lie. 
2.	Draw the projections of the following points (FV, TV) on the common XY line, keeping the distance between the projectors as 40 mm. Point A : 30 mm above HP and 50 mm in front of VP. [To be discussed by the tutor] Point B : 20 mm above HP and 30 mm behind VP. Point C : 35 mm below HP and 20 mm behind VP. Point D : 40 mm below HP and 15 mm in front of VP. Point E : 50 mm above HP and on VP. Point F : On both HP and VP. *Also identify the quadrant in which these points lie and represent it in tabular form.*
3.	Point Q is 30 mm from HP and lies in the (a) first quadrant (b) third quadrant. Distance between its front view and top view is 50 mm. Draw the following views: Front view, top view and left side view.
4.	A point R is 30 mm above H.P. and is in the first quadrant. Its shortest distance from the XY line is 50 mm. Draw its plan and elevation. OR The plan of a point T is 35 mm above XY line and its front view is 40 mm below the XY line. Draw its projections and also mark its shortest distance from the XY line.

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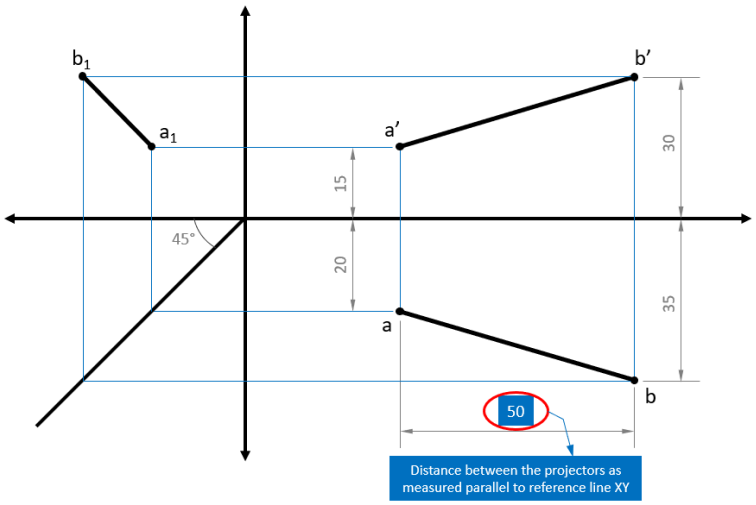
5.	[This question is to be discussed by the Tutor (~5-10 minutes)] Refer Model solution Point A is 15 mm above HP and 20 mm in front of VP. Another point B is 30 mm above HP and 35 mm in front of VP. The distance between their projectors as measured parallel to reference line XY is 50 mm. Draw the FV, TV and RHSV of points A and B on common reference lines i.e. XY and X_1Y_1. Also connect the respective views with object line (i.e. a' with b', a with b and a" with b"). 
6.	Point C is 25 mm above HP and 20 mm in front of VP. Another point D is 25 mm above HP and 20 mm in front of VP. The distance between their projectors as measured parallel to reference line XY is 40 mm. Draw the FV, TV and RHSV of points C and D on common reference lines i.e. XY and X1Y1. Also connect the respective views with object line (i.e. c' with d', c with d and c" with d").
7.	Points E and F are 25 mm above HP. Both points lie in first quadrant and distances of points E and F from VP are 10 mm and 50 mm respectively. The distance between their projectors as measured parallel to reference line XY is 0 mm. Draw the FV, TV and RHSV of points E and F on common reference lines i.e. XY and X1Y1. Also connect the respective views with object line (i.e. e' with f', e with f and e" with f").
8.	Points G and H are 20 mm behind VP. Both points lie in third quadrant and distances of points G and H from HP are 5 mm and 40 mm respectively. The distance between their projectors as measured parallel to reference line XY is 0 mm. Draw the FV, TV and LHSV of points G and H on common reference lines i.e. XY and X1Y1. Also connect the respective views with object line (i.e. g' with h', g with h and g" with h").
9.	Points I is 40 mm above HP and is on VP. Point J is 50 mm in front of VP and on HP. The distance between their projectors as measured parallel to reference line XY is 0 mm. Draw the FV, TV and RHSV of points I and J on common reference lines i.e. XY and X1Y1. Also connect the respective views with object line (i.e. i' with j', i with j and i" with j").