

Engineering Drawing July-Nov 2016  
Indian Institute of Technology Guwahati

**Lab-4**

**Projection of lines-I**

**Monday Batch**

1. Draw the projections of the following points on the same ground line keeping the distance between the projectors equal to 25 mm. (*Attempt any five*) [10]
- a) Point A, 20 mm above HP and 25 mm behind VP
  - b) Point B, 25 mm below HP, 20 mm behind VP
  - c) Point C, 20 mm below HP and 30 mm in front of VP
  - d) Point D, 20 mm above HP and 25 mm in front of VP
  - e) Point E on HP and 25 mm behind VP
  - f) Point F on VP and 30 mm above HP
2. A straight line AB of 40 mm length is parallel to the HP and inclined at  $30^\circ$  to the VP. Its end point A is 10 mm from the HP and 15 mm from the VP. Draw the projections of the line AB, assuming it to be located in the third quadrant. [10]
3. A line CD is parallel to VP and inclined at  $40^\circ$  to the HP. C is in HP and 25 mm in front of VP. Top view is 50 mm long. Find its true length. [10]
4. A line AB 60 mm long is parallel to HP. The point A is 20 mm above HP and 35 mm in front of VP. The length of the front view is 50 mm. Determine its true inclination with VP and draw the projections. [10]
5. A straight line AB of 40 mm length has one of its ends, A 10 mm from HP and 15 mm from VP. Draw the projections of the line if it is parallel to vertical plane and inclined at  $30^\circ$  to horizontal plane. Assume the line to be located in the fourth quadrant. [10]

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**Projection of lines-I**

**Tuesday Batch**

1. Draw the projections of the following points on the same ground line keeping the distance between the projectors equal to 25 mm. (*Attempt any five*) [10]
  - a. Point A, 25 mm above HP and 25 mm behind VP
  - b. Point B, 30 mm below HP, 20 mm behind VP
  - c. Point C, 25 mm below HP and 30 mm in front of VP
  - d. Point D, 25 mm above HP and 25 mm in front of VP
  - e. Point E on HP and 25 mm behind VP
  - f. Point F on VP and 30 mm above HP
  
2. A line PQ 90 mm long, is in the HP and makes an angle of  $30^\circ$  with the VP. Its end P is 25 mm in front of the VP. Draw its projections. [10]
  
3. A line CD is parallel to VP and inclined at  $40^\circ$  to the HP. C is in HP and 25mm in front of VP. Top view is 50 mm long. Find its true length. [10]
  
4. A line GH 45 mm long is in HP and inclined to VP. The end G is 15 mm in front of VP. Length of the front view is 35 mm. Draw the projections of the line. Determine its true inclination with VP. [10]
  
5. A straight line AB of 40 mm length has one of its ends, A 10 mm from HP and 15 mm from VP. Draw the projections of the line if it is parallel to vertical plane and inclined at  $30^\circ$  to horizontal plane. Assume the line to be located in the fourth quadrant. [10]

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**Projection of lines-I**

**Wednesday Batch**

1. Draw the projections of the following points on the same ground line keeping the distance between the projectors equal to 25 mm. (*Attempt any five*) [10]
  - i. Point A, 20 mm above HP and 30 mm behind VP
  - ii. Point B, 25 mm below HP, 25 mm behind VP
  - iii. Point C, 20 mm below HP and 35 mm in front of VP
  - iv. Point D, 20 mm above HP and 30 mm in front of VP
  - v. Point E on HP and 30 mm behind VP
  - vi. Point F on VP and 35 mm above HP
  
2. The front view of a 75 mm long line measures 55 mm. The line is parallel to the HP and one of its end is in the VP and 25 mm above the HP. Draw the projections of the line and determine its inclination with the VP. [10]
  
3. A straight line EF 40 mm long parallel to HP and inclined at an angle of  $35^\circ$  to VP. The end E is 20 mm above HP and 15 mm in front of VP. Draw the projections and find its true length. [10]
  
4. The line EF 60 mm long is in VP and inclined to HP. The top view measures 45 mm. The end E is 15 mm above HP. Draw the projections of the line. Find its inclination with HP. [10]
  
5. A straight line AB of 40 mm length has one of its ends, A 10 mm from HP and 15 mm from VP. Draw the projections of the line if it is parallel to vertical plane and inclined at  $30^\circ$  to horizontal plane. Assume the line to be located in the fourth quadrant. [10]

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**Projection of lines-I**

**Thursday Batch**

1. Draw the projections of the following points on the same ground line keeping the distance between the projectors equal to 25 mm. (*Attempt any five*) [10]
  - I. Point A, 20 mm above HP and 25 mm behind VP
  - II. Point B, 30 mm below HP, 40 mm behind VP
  - III. Point C, 20 mm below HP and 30 mm in front of VP
  - IV. Point D, 30 mm above HP and 35 mm in front of VP
  - V. Point E on HP and 25 mm behind VP
  - VI. Point F on VP and 20 mm above HP
  
2. A line MN 50 mm long is parallel to VP and inclined at  $30^\circ$  to HP. The end M is 20 mm above HP and 10 mm in front of VP. Draw the projections of the line [10]
  
3. The length of the top view of a line parallel to the VP and inclined at  $45^\circ$  to the HP is 50 mm. One end of the line is 12 mm above the HP and 25 mm in front of VP. Draw the projections of the line. Determine its true length. [10]
  
4. The line EF 40 mm long is in VP and inclined to HP. The top view measures 30 mm. The end E is 10 mm above HP. Draw the projections of the line. Find its inclination with HP [10]
  
5. A straight line AB of 40 mm length has one of its ends, A 10 mm from HP and 15 mm from VP. Draw the projections of the line if it is parallel to vertical plane and inclined at  $30^\circ$  to horizontal plane. Assume the line to be located in the fourth quadrant. [10]

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**Projection of lines-I**

**Friday Batch**

1. Draw the projections of the following points on the same ground line keeping the distance between the projectors equal to 25 mm. (*Attempt any five*) [10]
  - i. Point A, 35 mm above HP and 25 mm behind VP
  - ii. Point B, 25 mm below HP, 30 mm behind VP
  - iii. Point C, 30 mm below HP and 30 mm in front of VP
  - iv. Point D, 40 mm above HP and 25 mm in front of VP
  - v. Point E on HP and 45 mm behind VP
  - vi. Point F on VP and 30 mm above HP
  
2. A straight line AB of 40 mm length is parallel to the HP and inclined at  $30^\circ$  to the VP. Its end point A is 10 mm from the HP and 15 mm from the VP. Draw the projections of the line AB, Assuming it to be located in the third quadrant. [10]
  
3. The length of the top view of a line parallel to the VP and inclined at  $45^\circ$  to the HP is 50 mm. One end of the line is 12 mm above the HP and 25 mm in front of VP. Draw the projections of the line. Determine its true length. [10]
  
4. A 60 mm long line AB is parallel to and 20 mm in front of the VP. The ends A and B of the line are 10 mm and 50 mm above HP respectively. Draw the projection of the line and determine its inclination with HP. [10]
  
5. A straight line AB of 40 mm length has one of its ends, A 10 mm from HP and 15 mm from VP. Draw the projections of the line if it is parallel to vertical plane and inclined at  $30^\circ$  to horizontal plane. Assume the line to be located in the fourth quadrant. [10]