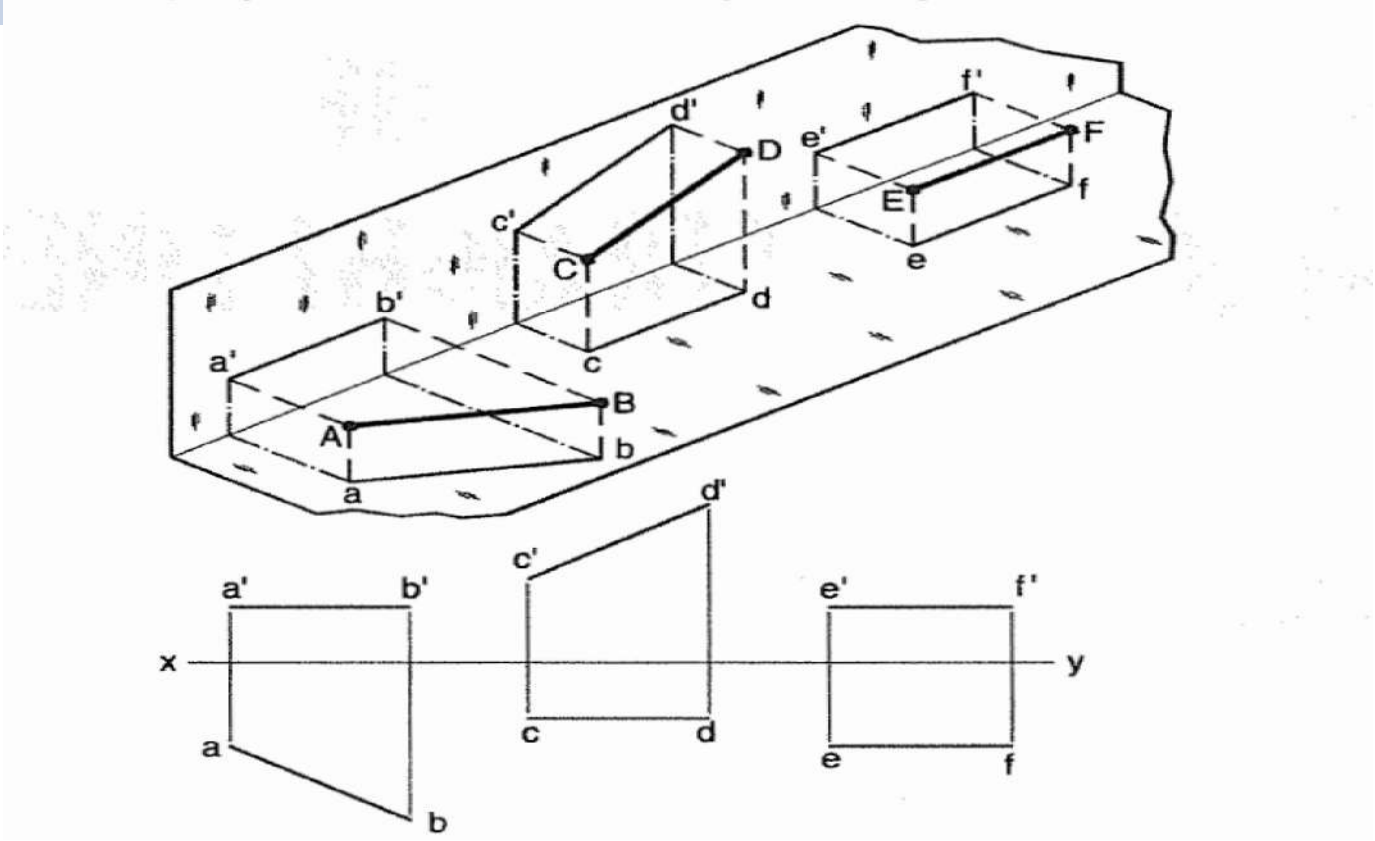
Engineering Drawing Principles L-10

Projection of Straight Lines

1. Parallel to one or both the planes.
2. Contained by one or both the planes.
3. Perpendicular to one of the planes.
4. Inclined to one plane and parallel to the other.
5. Inclined to both the planes.
6. Projections of lines inclined to both the planes.
7. Line contained by a plane perpendicular to both the reference planes.
8. True length of a straight line and its inclinations with the reference planes.
9. Traces of a line.
10. Methods of determining traces of a line.
11. Traces of a line, the projections of which are perpendicular to xy.
12. Positions of traces of a line.

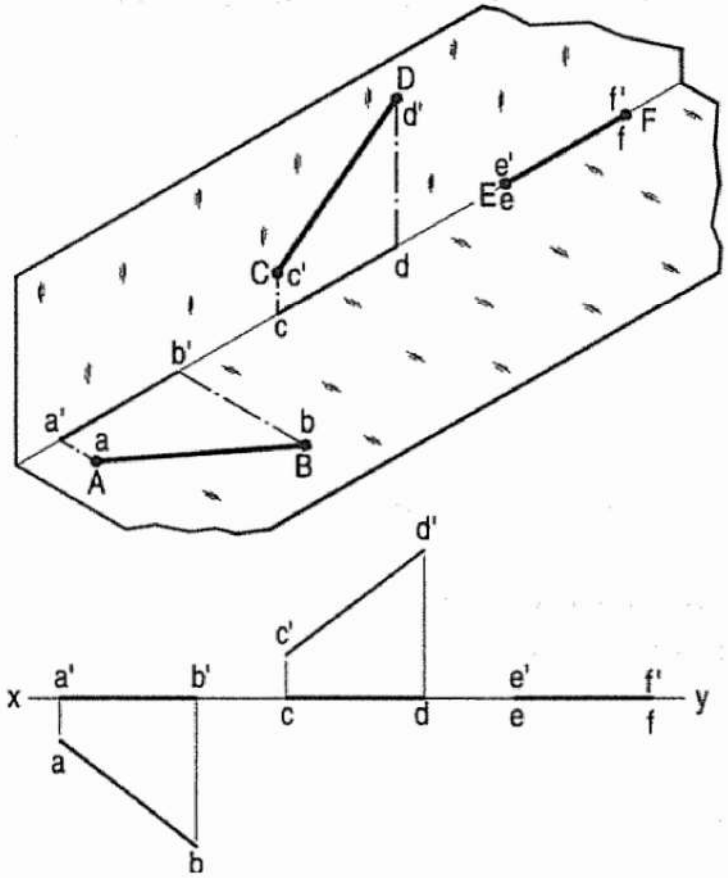
Projection of Straight Lines

Line Parallel to one or both the planes



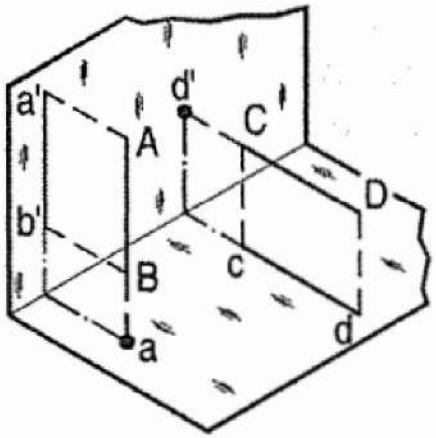
Projection of Straight Lines

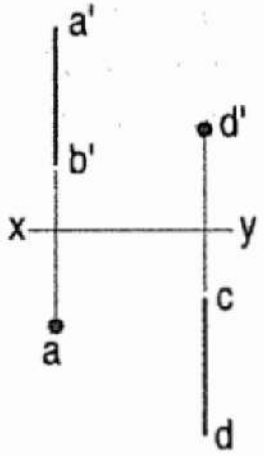
Line Contained by One or Both Planes



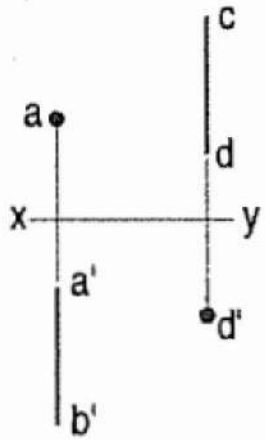
Projection of Straight Lines

Line Perpendicular to one of the Planes





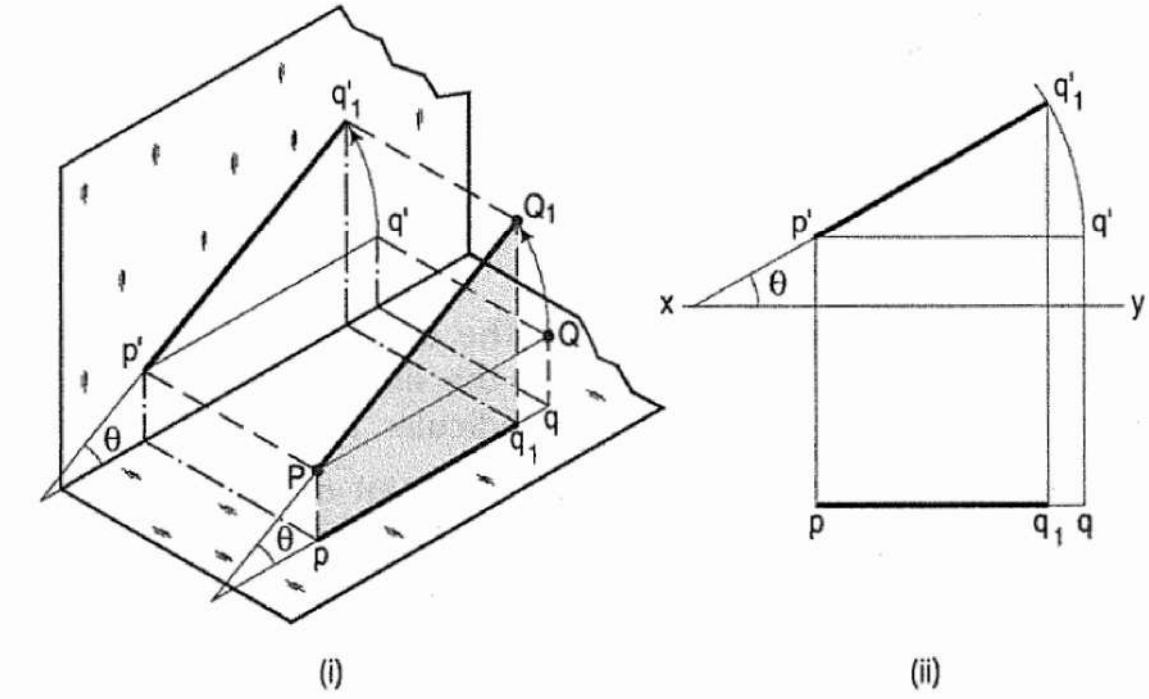
(FIRST-ANGLE PROJECTION)



(THIRD-ANGLE PROJECTION)

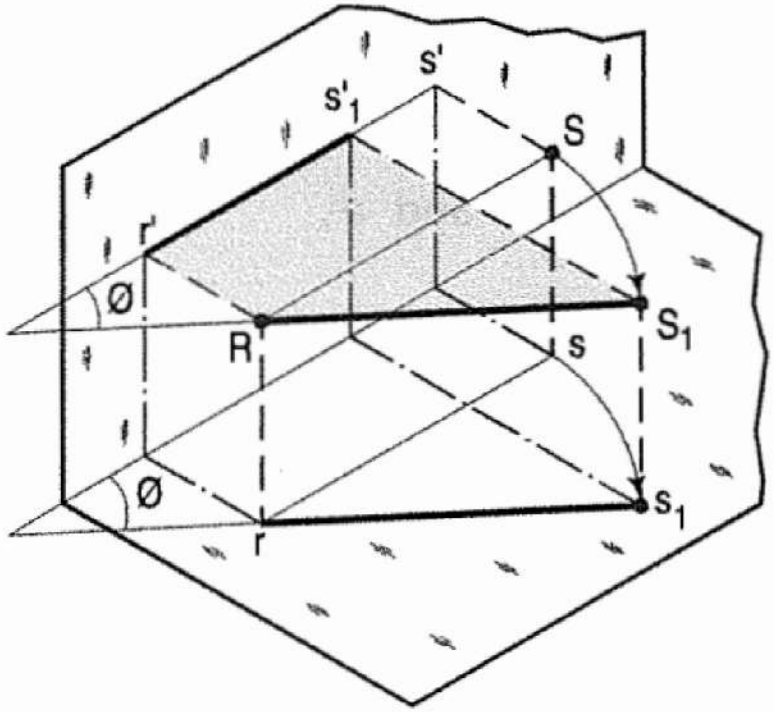
Projection of Straight Lines

Line is inclined to HP and parallel to VP

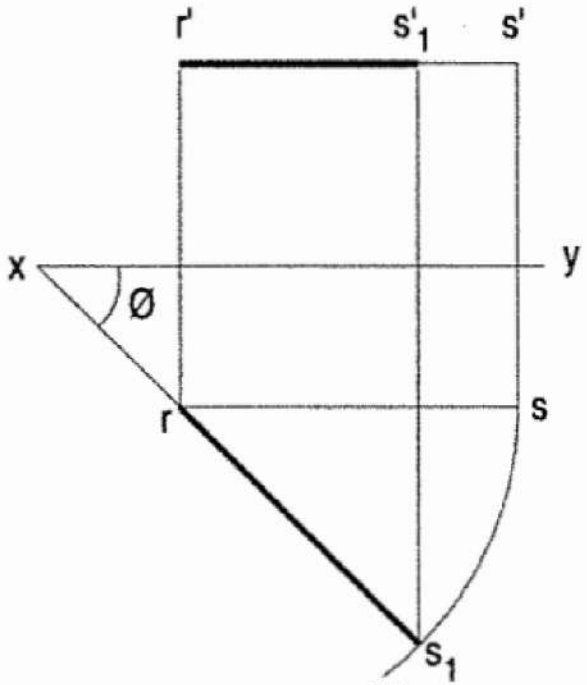


Projection of Straight Lines

Line is inclined to HP and parallel to VP



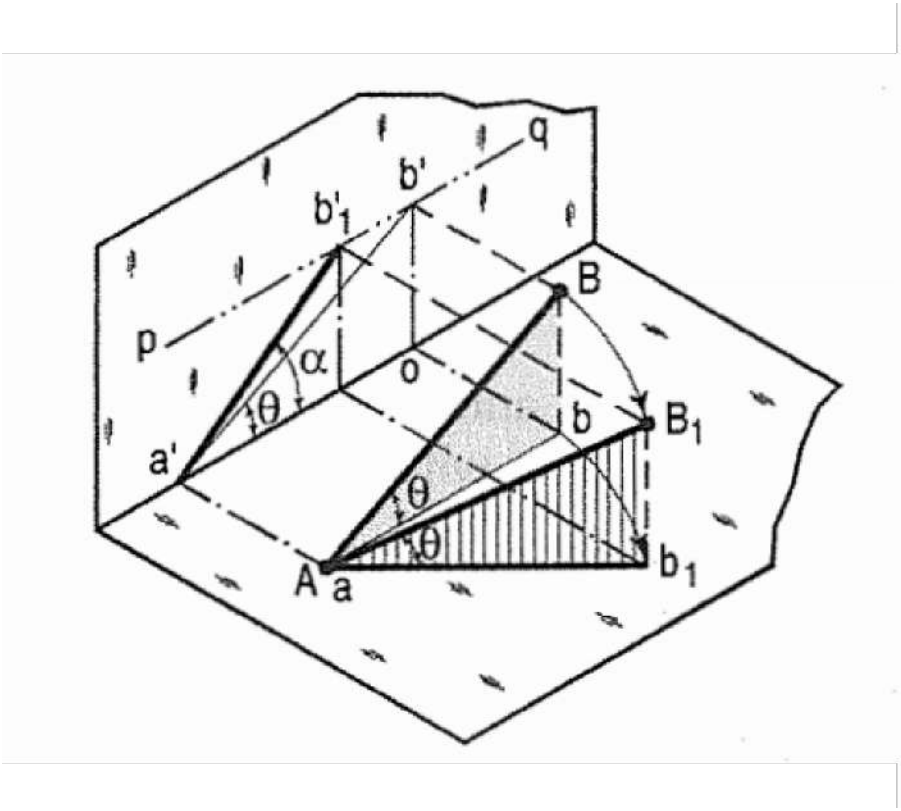
(i)

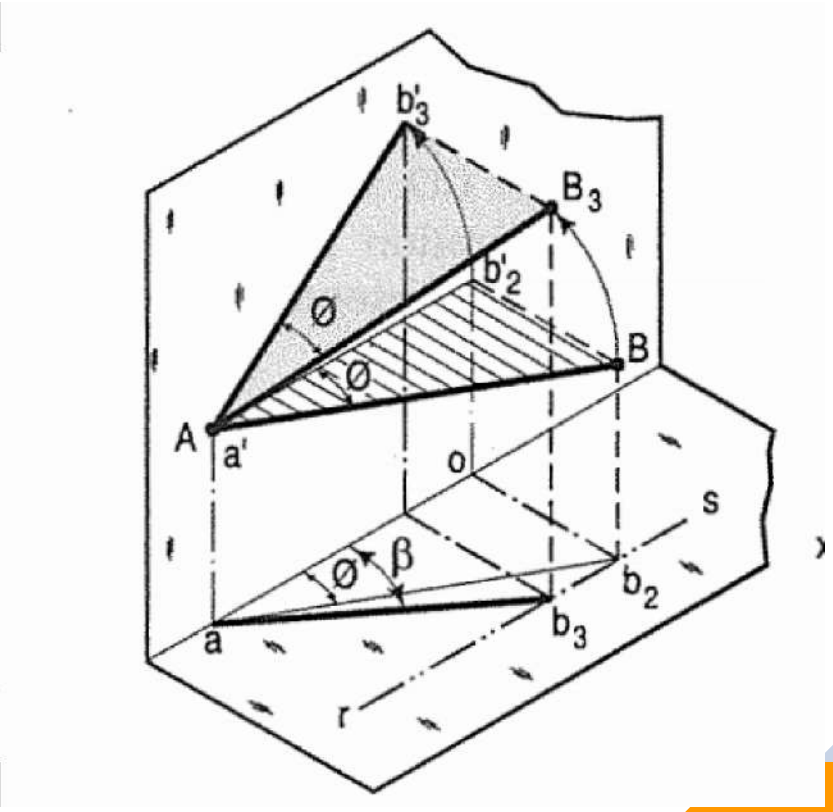


(ii)

Projection of Straight Lines

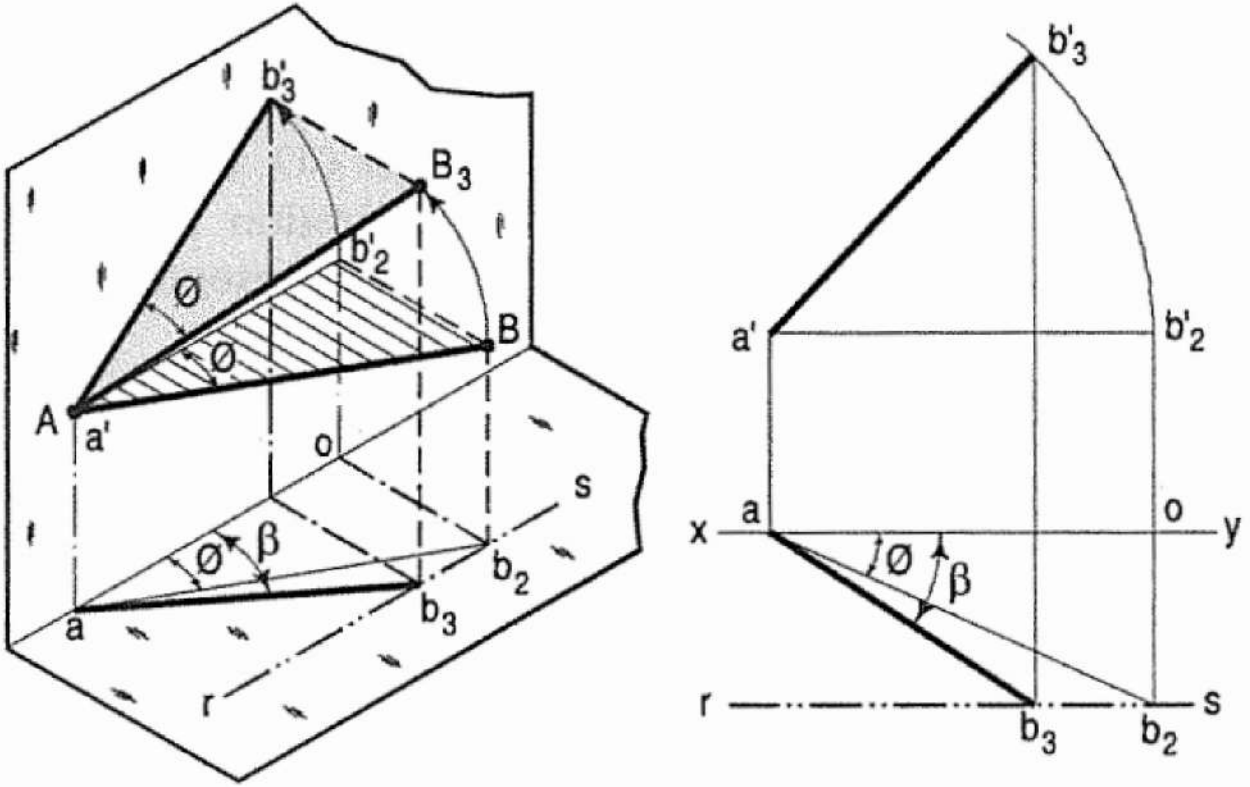
Line is inclined to both VP and HP





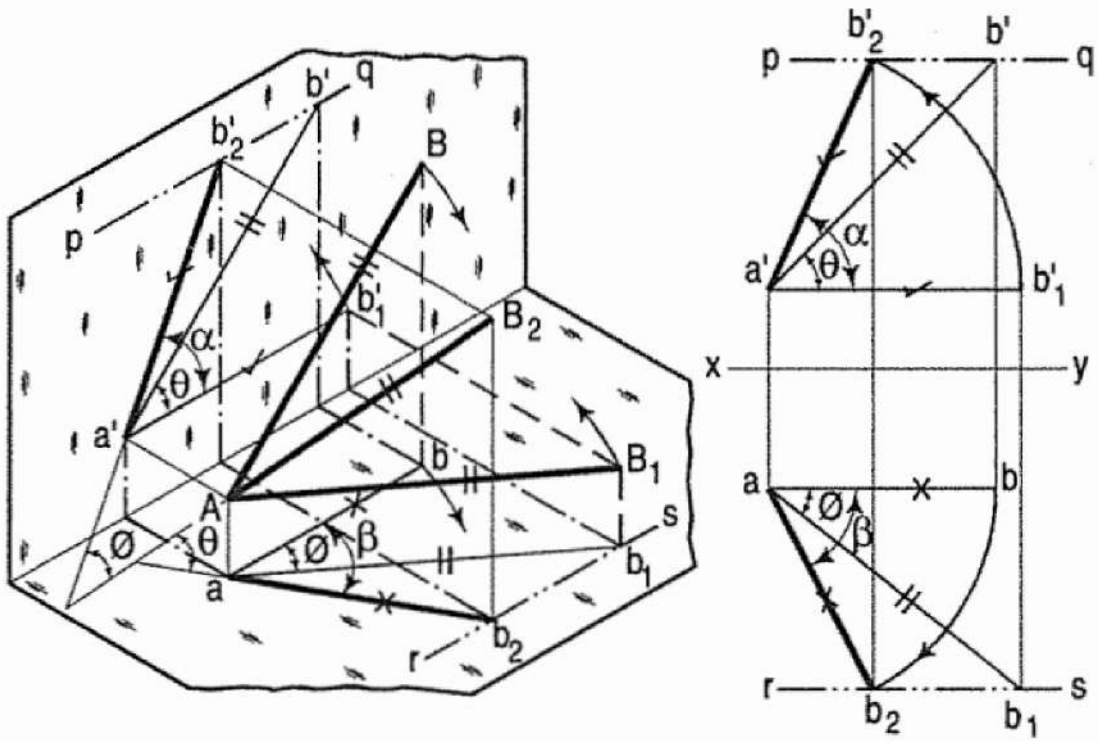
Projection of Straight Lines

Line is inclined to both VP and HP



Projection of Straight Lines

Line is inclined to both VP and HP



Projection of Straight Lines

Q1. The length of *the top view* of *a line parallel to the V.P. and inclined at 45° to the H.P. is 5O* mm. *One end* of *the line is 12 mm above the H.P. and 25 mm in front* of *the V.P. Draw the projections of the line and determine its true length.*

Q2. A line PQ, 90 mm long, is in the H.P. and makes an angle of 30° *with the V.P. Its end P* is *25 mm in front of the V.P. Draw its projections*