



Rajiv Gandhi Institute of Petroleum Technology
Jais, Amethi

An Institution of National Importance, Government of India

Engineering Graphics (ME121)

Projection of Lines

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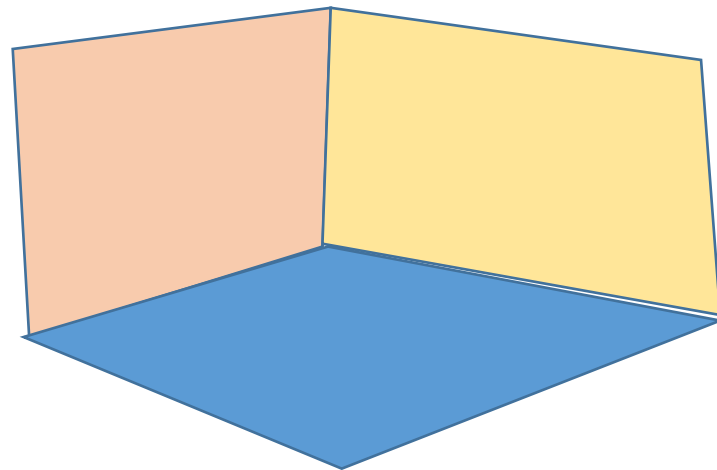
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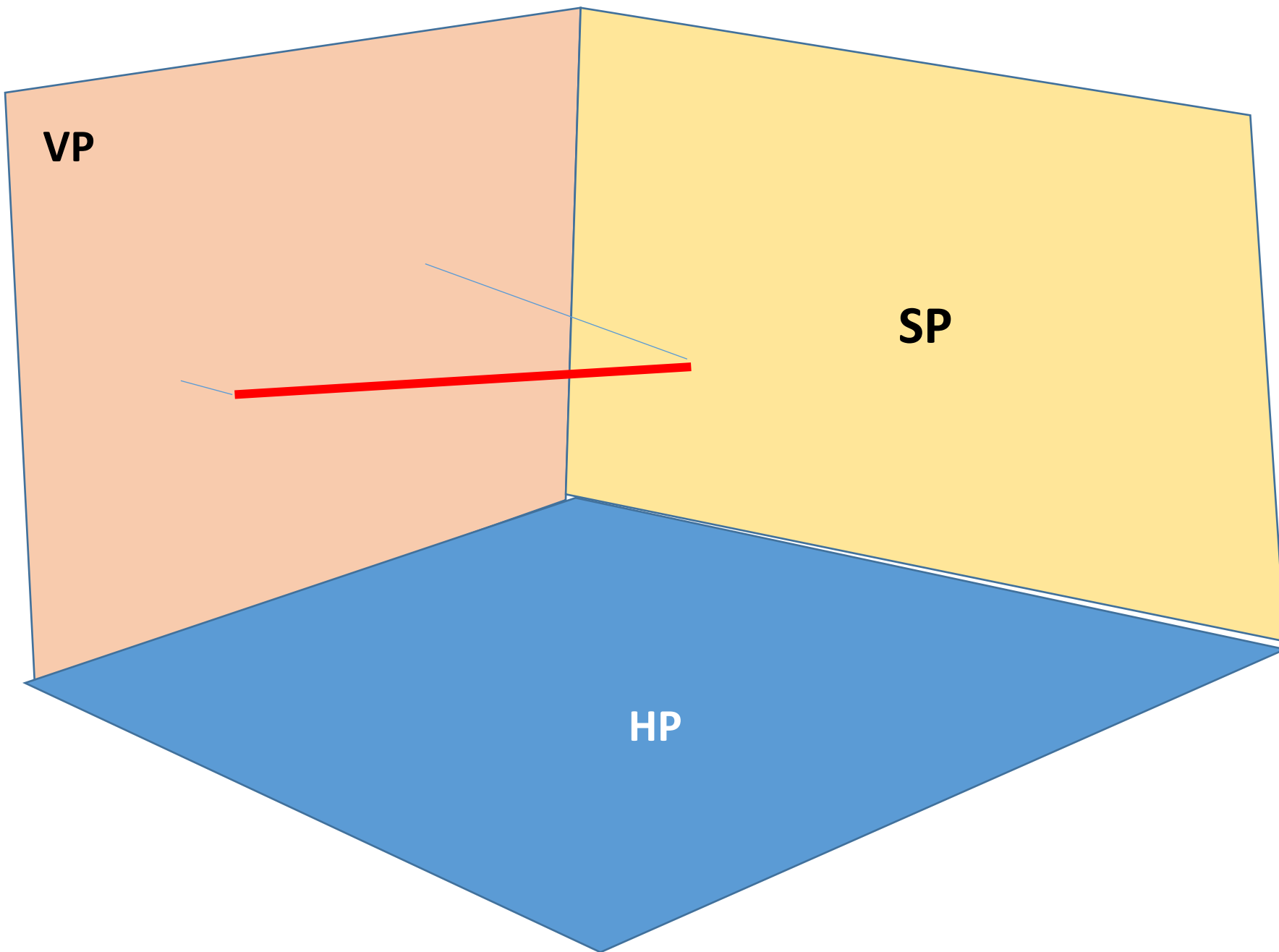
Topics

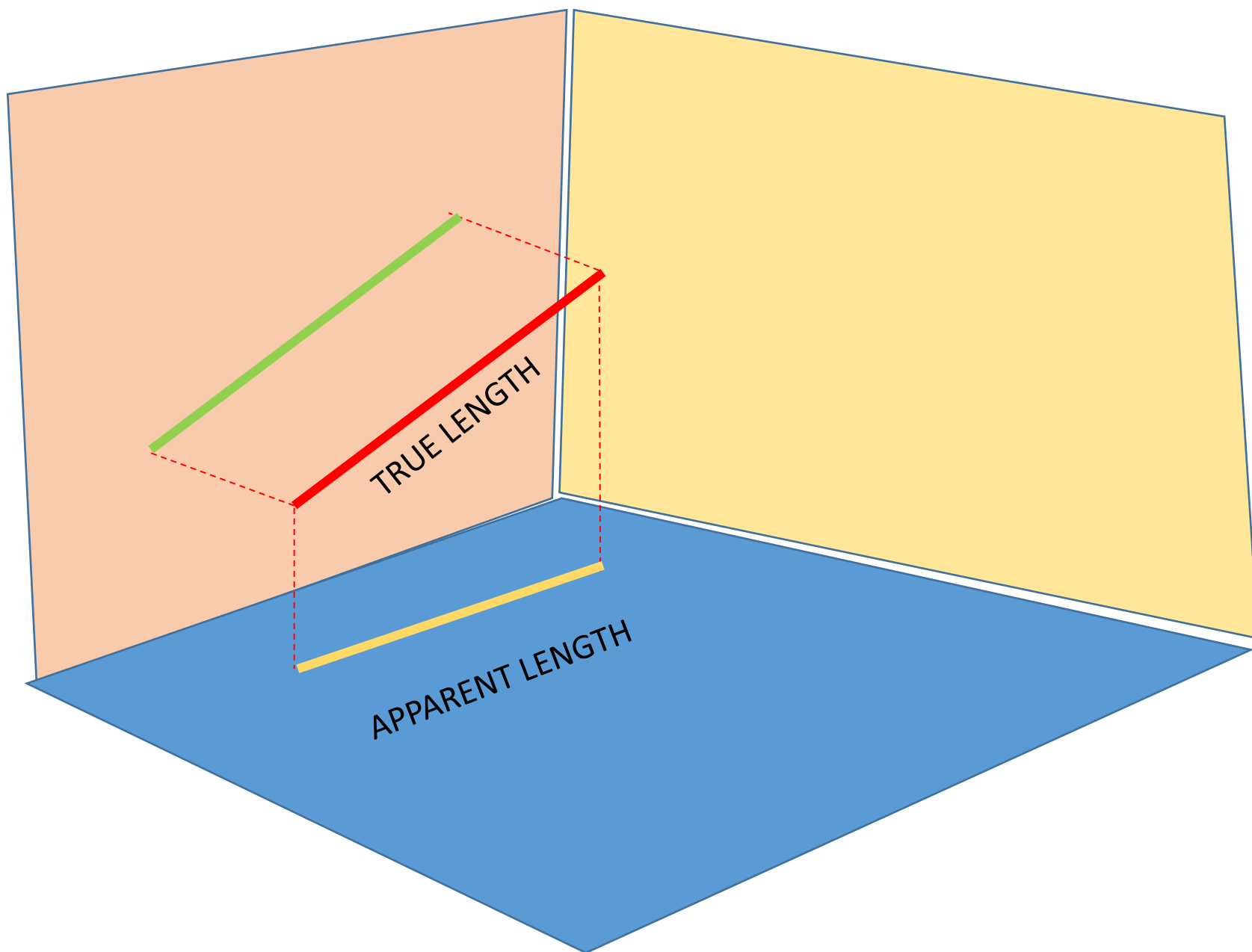
1. Introduction of line projection
2. Concept of true length and applications
3. Exercise

Projection of Line

- Line is parallel to one or both the planes
- Line is perpendicular to one of the plane
- Line is inclined to one plane and parallel to other
- Line is inclined to both the planes







Exercise(1st angle)

1. 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
2. The length of the TV of a line parallel to the VP and inclined at 45° 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 and determine its true length.
3. The FV of the line inclined at 30° to the VP is 65 mm long. Draw the projection of the line when it is parallel to and 40 mm above the HP, its one end being 30 mm in front of the VP.
4. The TV of a 75 mm long line measures 55 mm. The line is in the VP its one end being 25 mm above the HP. Draw its projections.
5. A 100 mm long line is parallel to and 40 mm above the HP. Its two ends are 25 mm and 50 mm in front of the VP respectively. Draw its projections and find its inclination with the VP.

Steps to draw inclined line projection

1. Assume line is parallel to both the planes.
2. Draw projection with first step condition and as per position of point.
3. Now rotate line as per given condition i.e. if line is inclined to HP rotate its FV and if inclined with VP rotate its TV (with pivot with one point)
4. Make an arc from pivot point with radius equal to true length of line and after getting new point on rotated view, project this point toward (TV if FV rotate or FV if TV rotate) view which we get on step 2.
5. The new position after intersection of projector line and TV/FV give you final TV/FV and now final views represents with thicker lines.