



CE 181103

**1st Semester
Civil & Chemical
Engg.**

M-2: Projection of Line

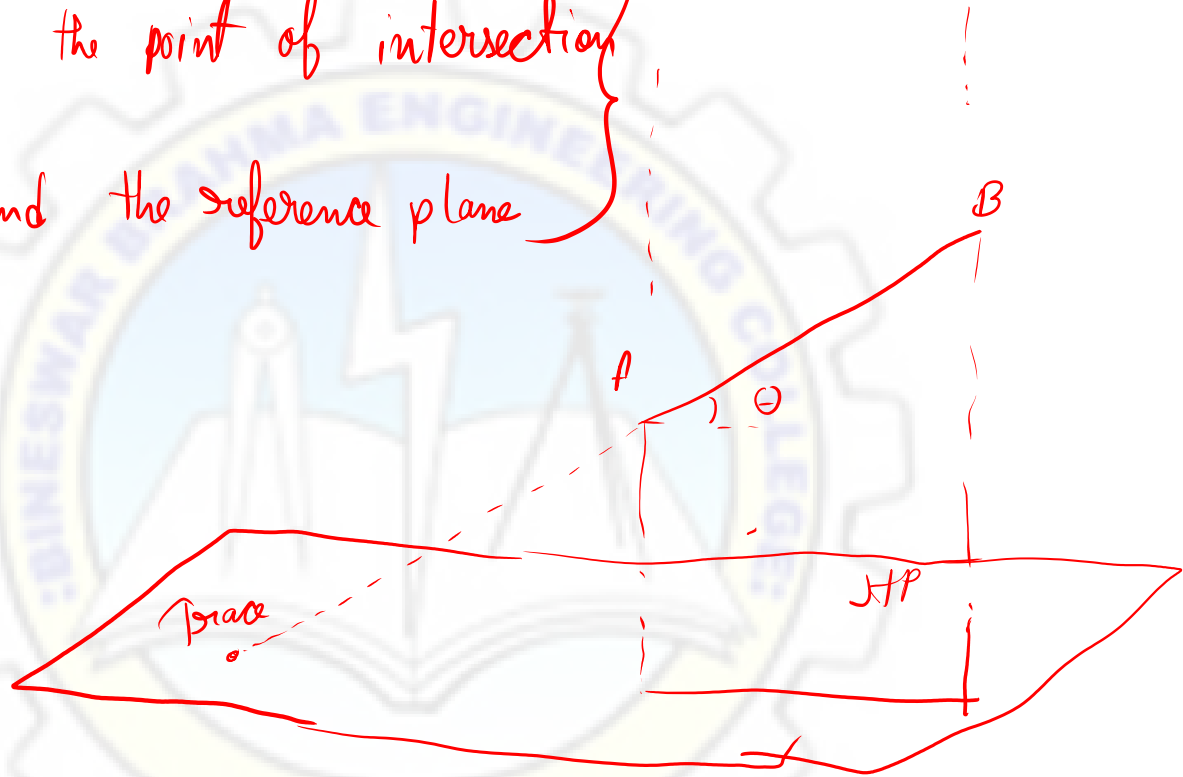
✓ **Traces of a line**

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* Trace of a line: Only the point of intersection
betⁿ the extended line and the reference plane

Horizontal trace : (HT)

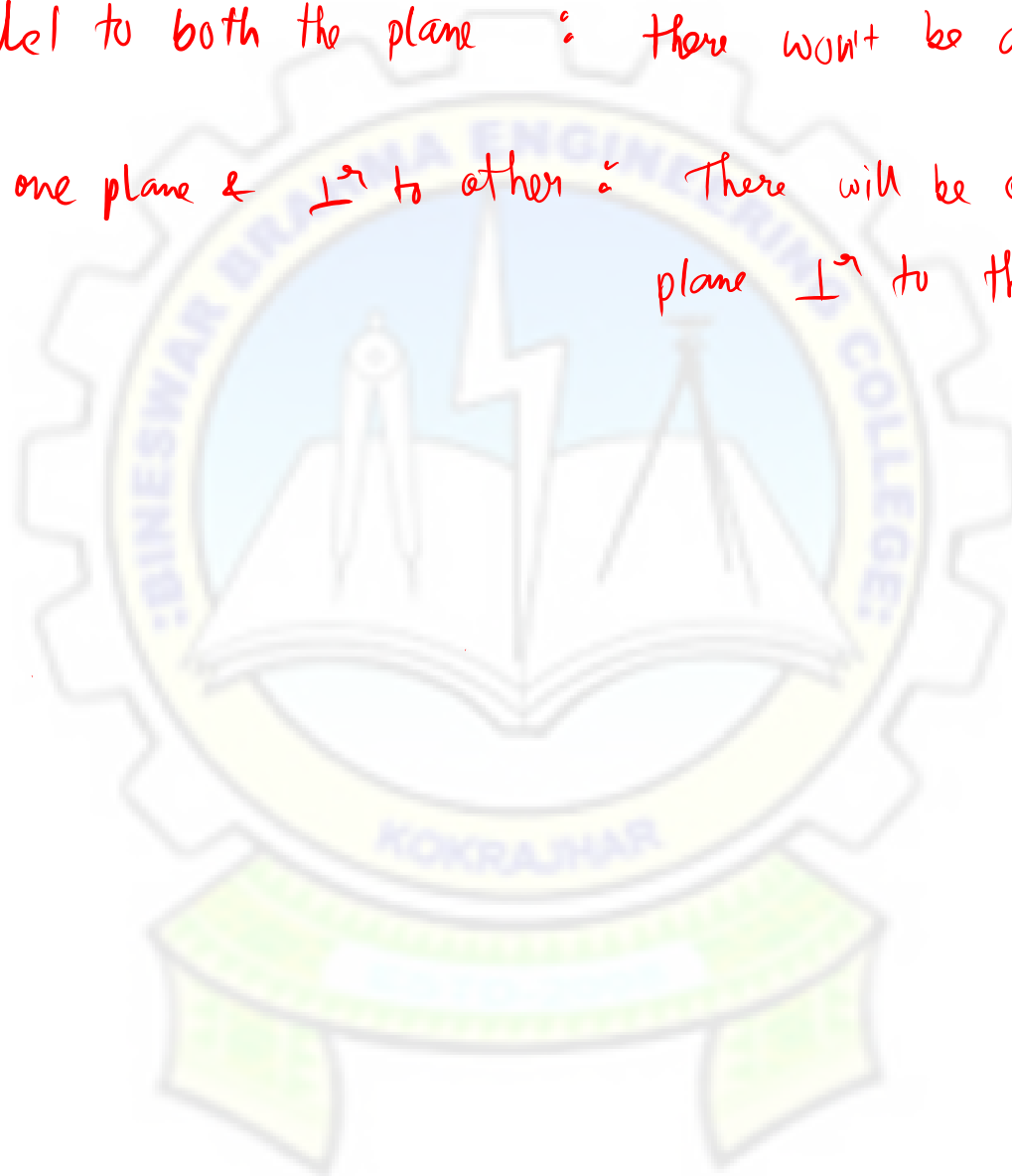
Vertical trace : (VT)



⊛ If the line is parallel to both the plane ∴ there won't be any trace

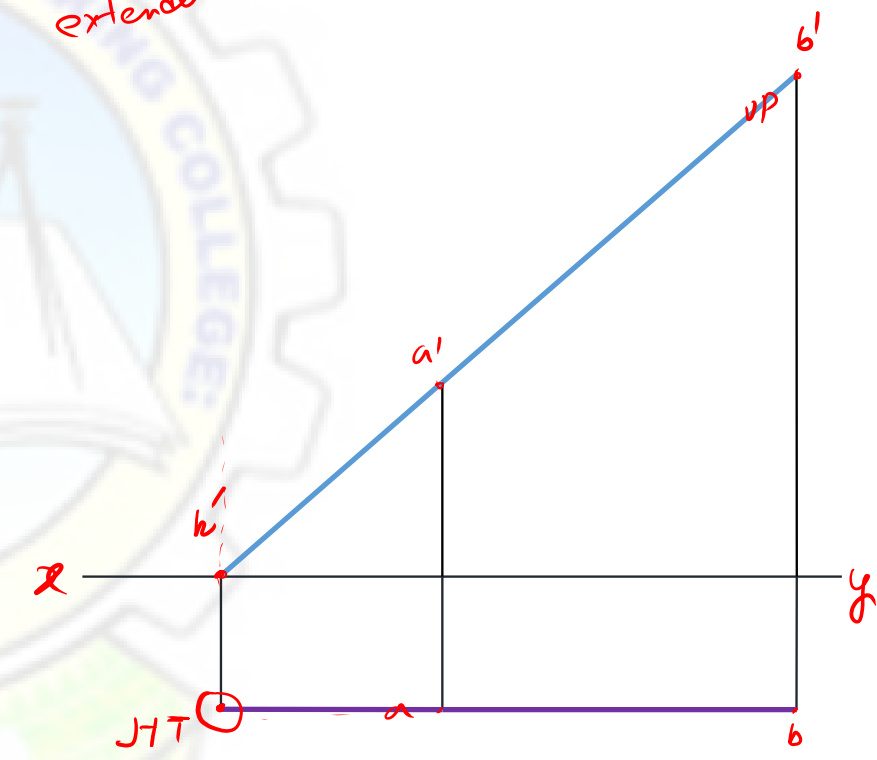
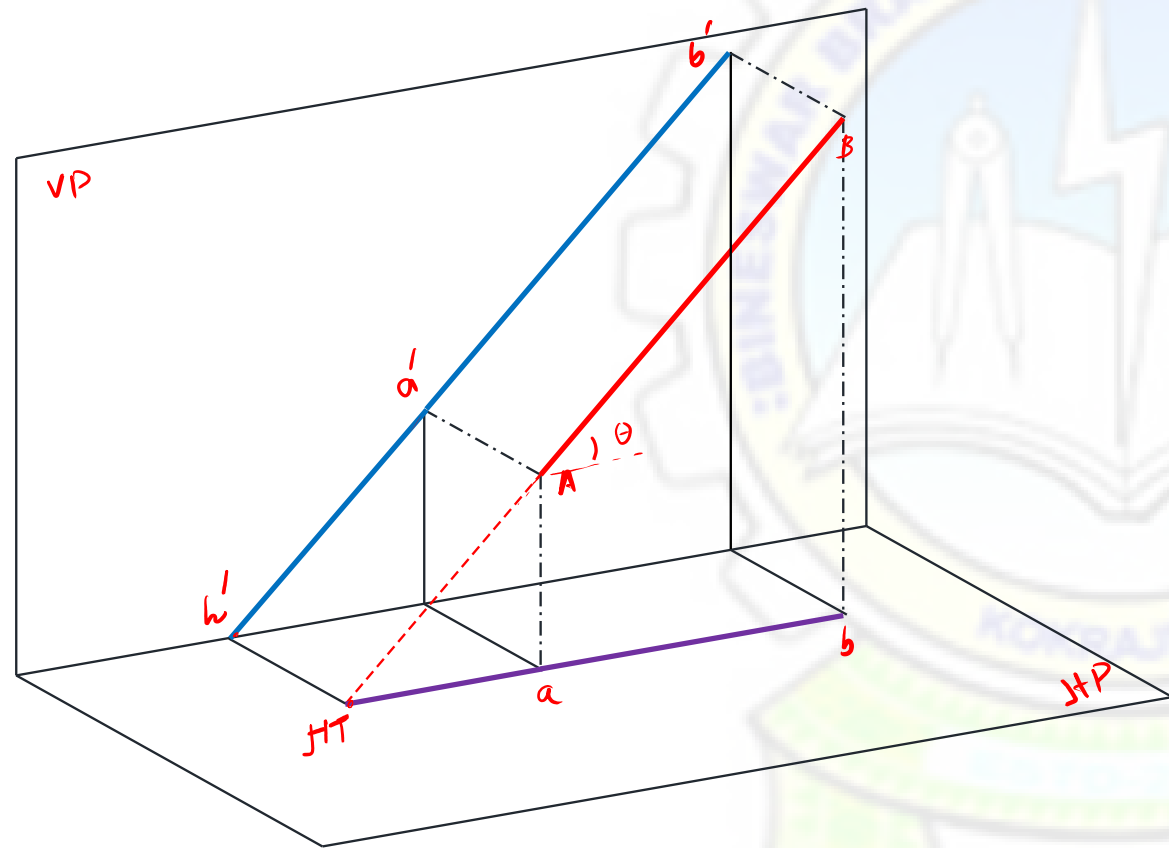
⊛ If line is parallel to one plane & \perp^r to other ∴ There will be one trace on the plane \perp^r to the line.

⊛



Case-1: When line is inclined to HP & parallel to VP

JIT \rightarrow point of intersection betⁿ extended top view & \perp on front view

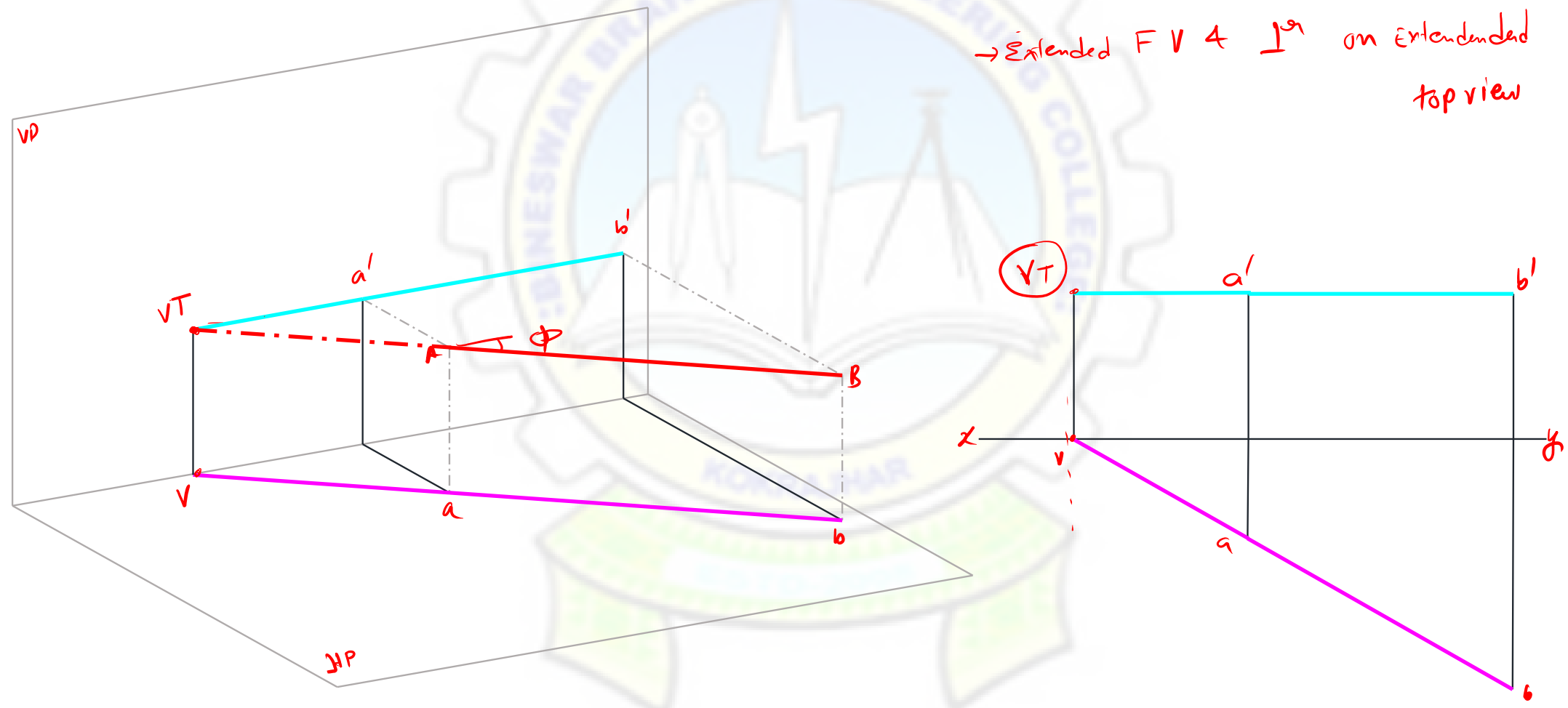


HP

Case-2: Line parallel to HP & inclined to VP

$\left. \begin{array}{l} \text{HT \& VF both above} \\ \text{or both below} \end{array} \right\}$

→ Extended FV & I^{or} on extended top view



Q.1 A straight line 55 mm long makes an angle of 30° to the HP and 45° to VP. The end A is 15 mm above HP and 12 mm in-front of VP. Draw its projection and horizontal and vertical trace.

$$\theta = 30^\circ$$

$$\phi = 45^\circ$$

$$AB = 55 \text{ mm}$$

$$h_a = 15 \text{ mm}$$

$$v_a = 12 \text{ mm}$$

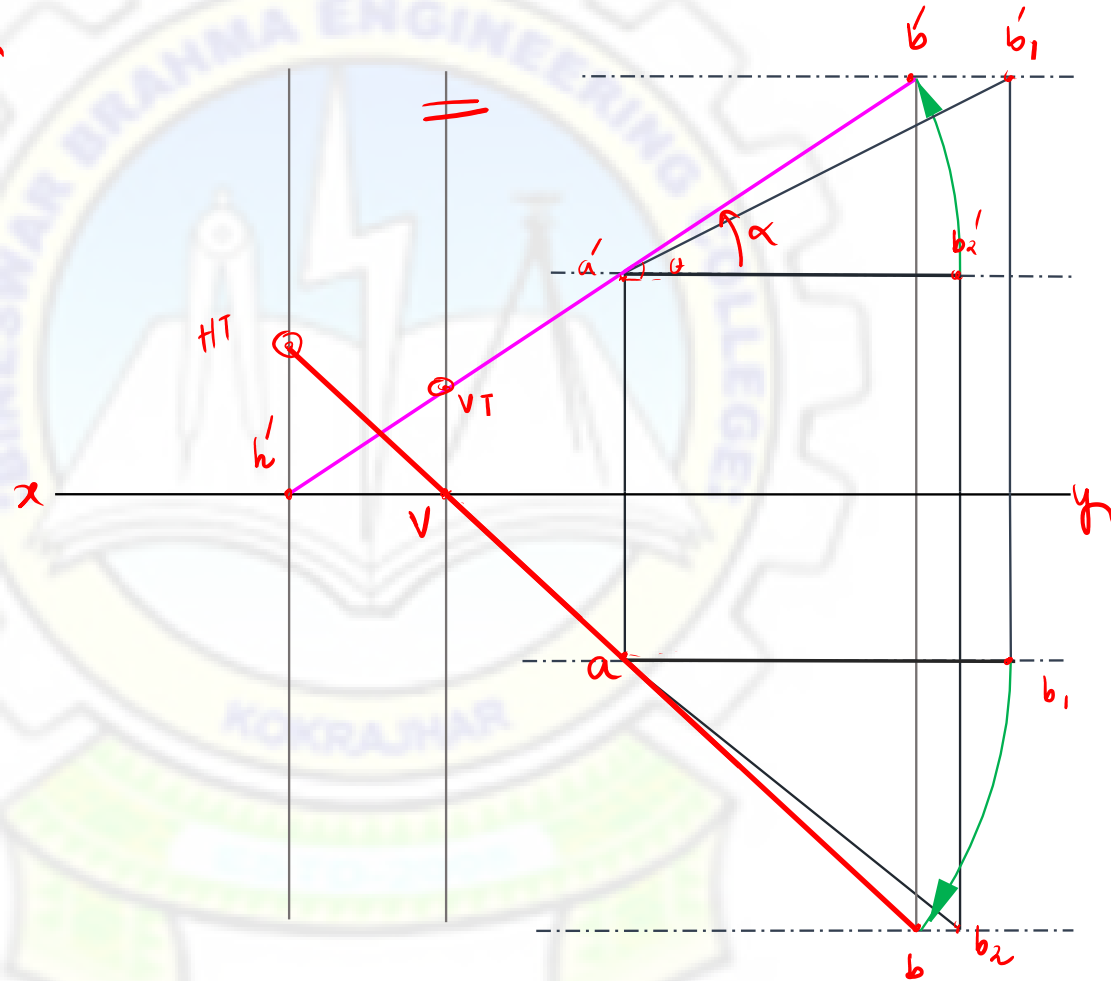
$$a'b' = 55 \text{ mm}$$

$$ab_2 = 55 \text{ mm}$$

$ab \rightarrow$ final top view

$a'b' \rightarrow$ final front view

Extend



(19)



Thank You