



CE 181103

**1st Semester
Civil and Chemical
Engg**

EGD
Construction Conic Sections

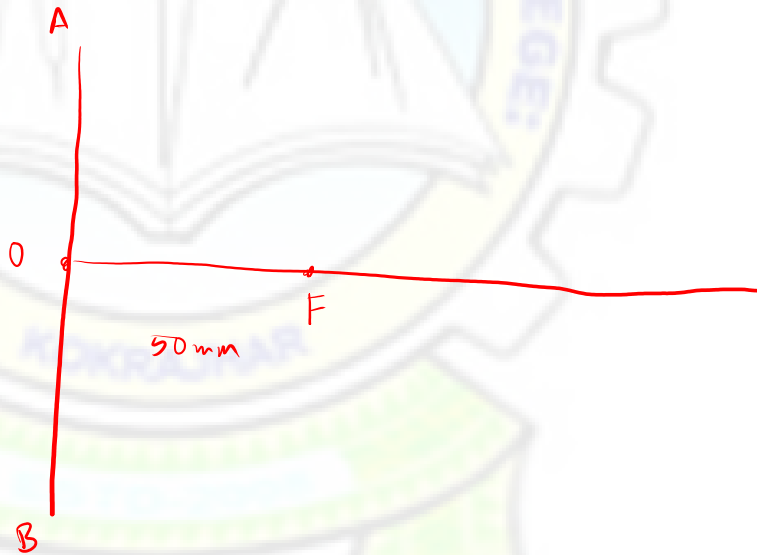
Hyperbola

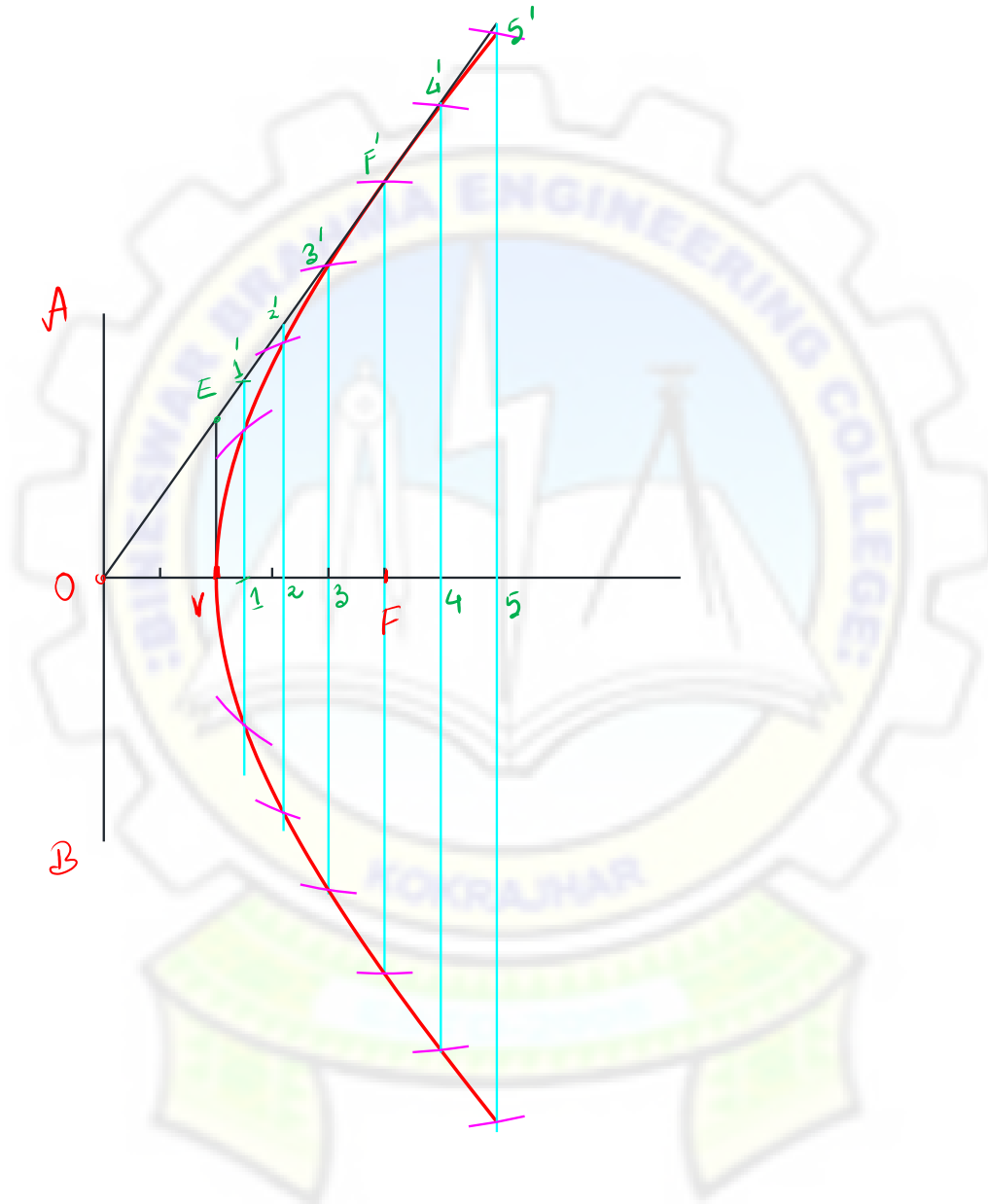
Prepared By,
ARINDOM DAS
Assistant Professor
Dept. of Civil Engineering
(Bineswar Brahma Engineering College)

Construction of hyperbola:

* General method: $\left\{ \begin{array}{l} \rightarrow \text{Dist of focus from directrix} \\ \rightarrow \text{Eccentricity} \end{array} \right.$

(*) Construct a conic section with eccentricity $(e) = \frac{3}{2}$ and dist of focus from the directrix 50 mm.





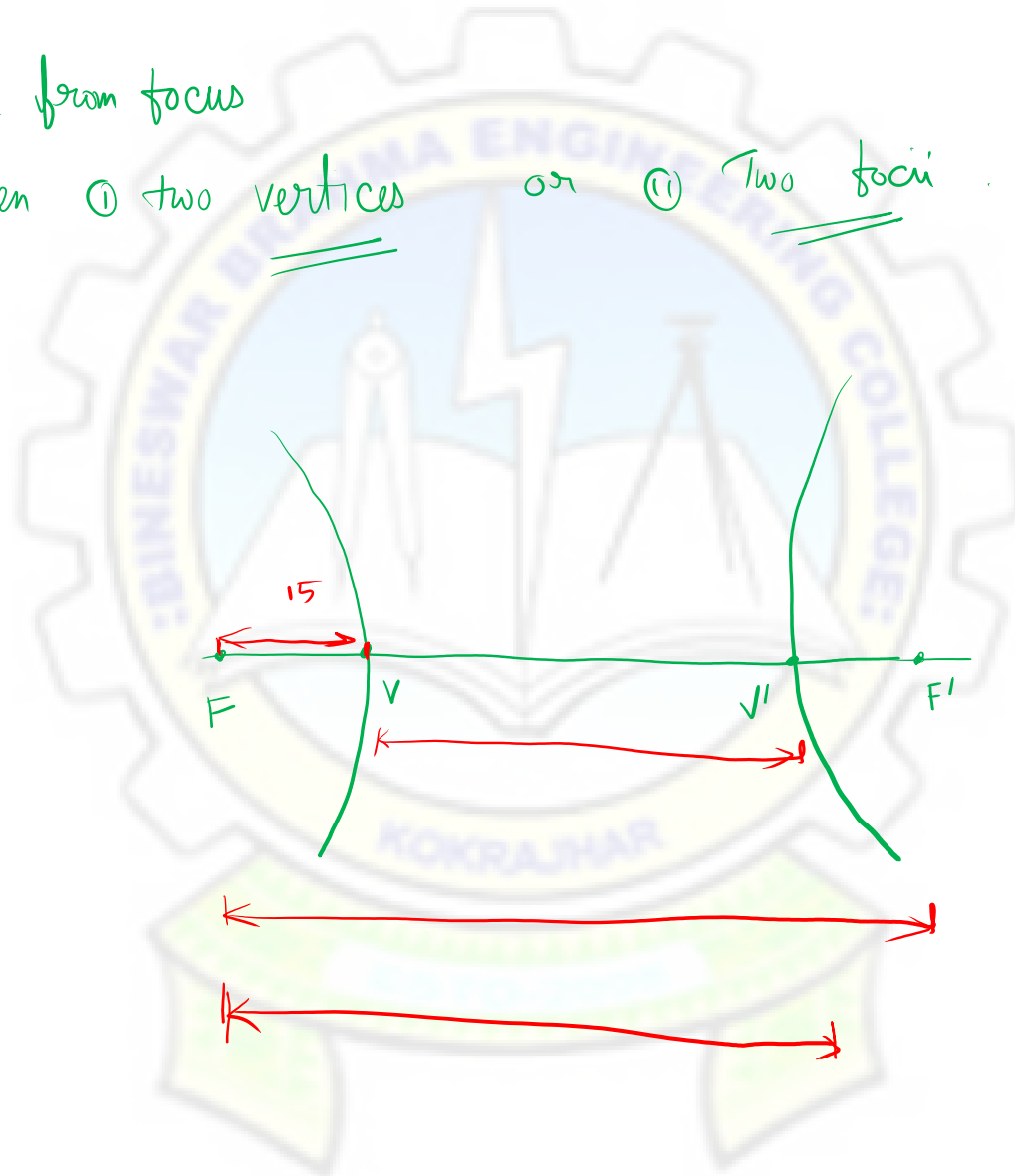
$$e = \frac{2}{3}$$

$$VE = VF$$

Alternative method:

↳ The dist. of vertex from focus

→ The distance between (i) two vertices or (ii) Two foci.

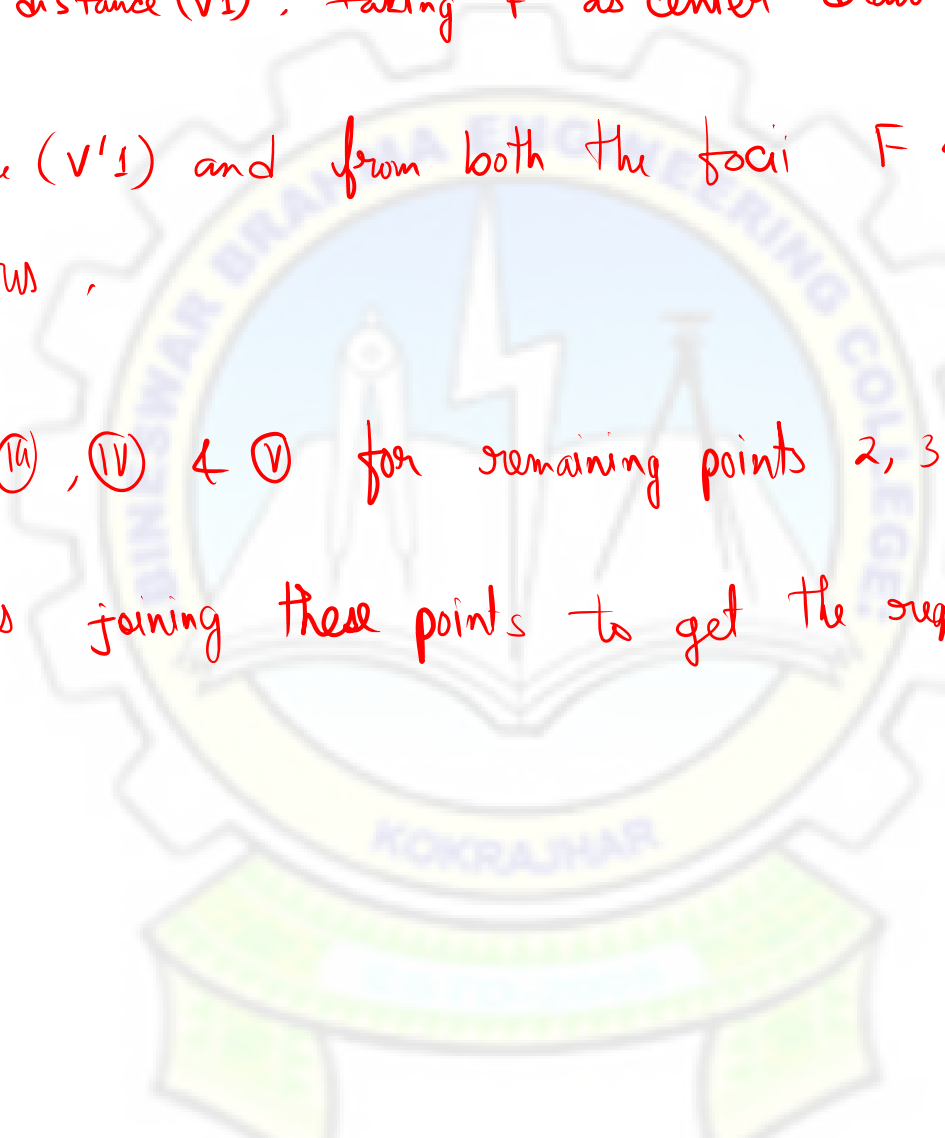


(*) The dist. of focus from vertex is 15 mm and the dist. between two vertices is 6 cm.

Construct the hyperbola.

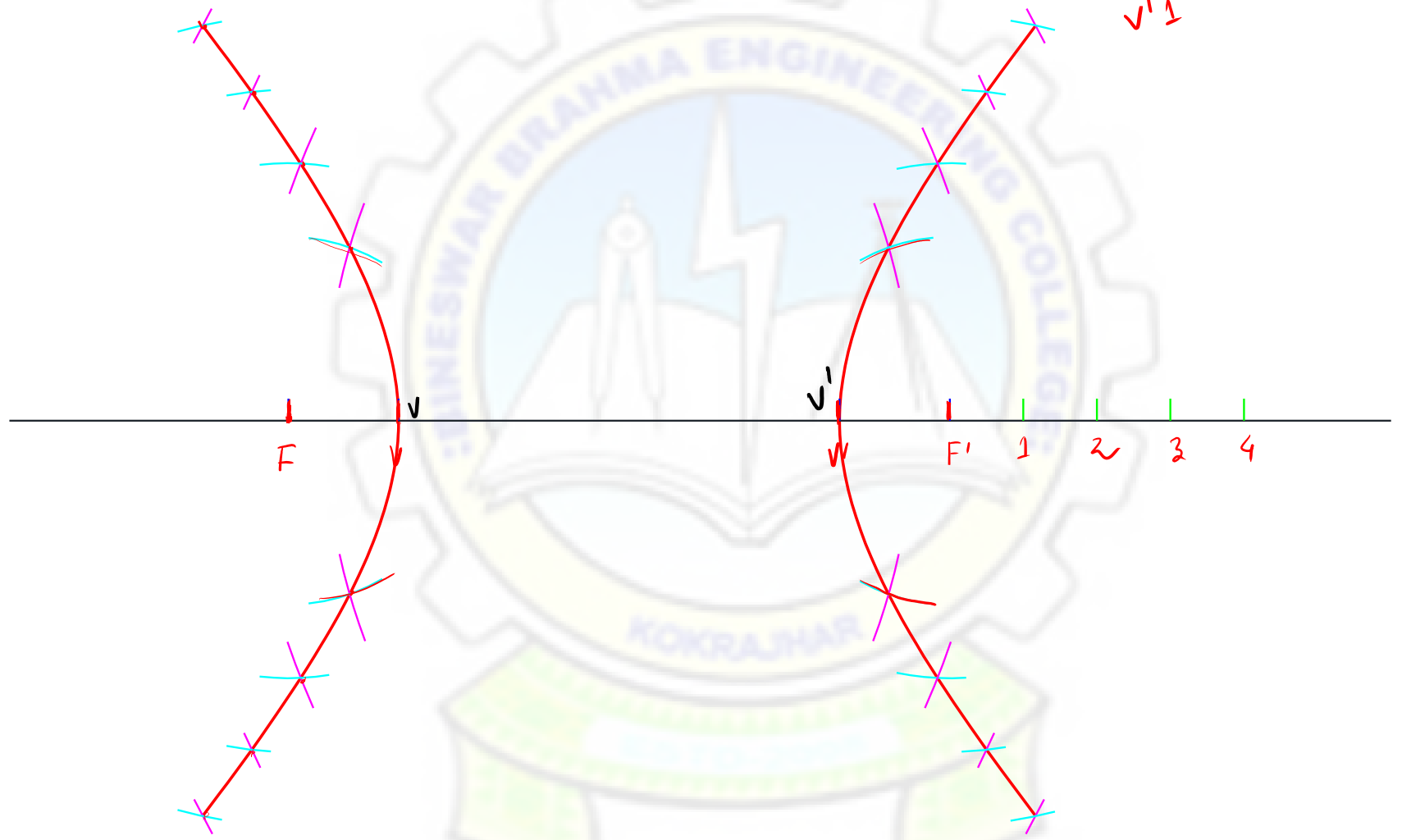
Solⁿ Steps

- ① Draw a horizontal line and mark the both foci (F & F') and vertices (V & V') as per given condition.
- ② Consider any one focus and mark some suitable points ^(1, 2, 3, 4) in the direction away from the vertex.
- ③ Consider the distance V_1 and taking ' F ' as the center draw two arcs towards ' F' '

- 
- (iv) Considering the same distance (VI), taking 'F' as center draw two arcs toward 'F'.
- (v) Now consider the distance (V'1) and from both the foci F & F' draw arcs intersecting the previous.
- (vi) Repeat the steps (iv), (v) & (vi) for remaining points 2, 3 & 4.
- (vii) Draw smooth curves joining these points to get the required hyperbola.

*

v_1 \rightarrow
 v_1 \rightarrow 4 arcs



Thank you

