

EE 5200 - OFFICE HR
14. SEP. 2009

Questions??

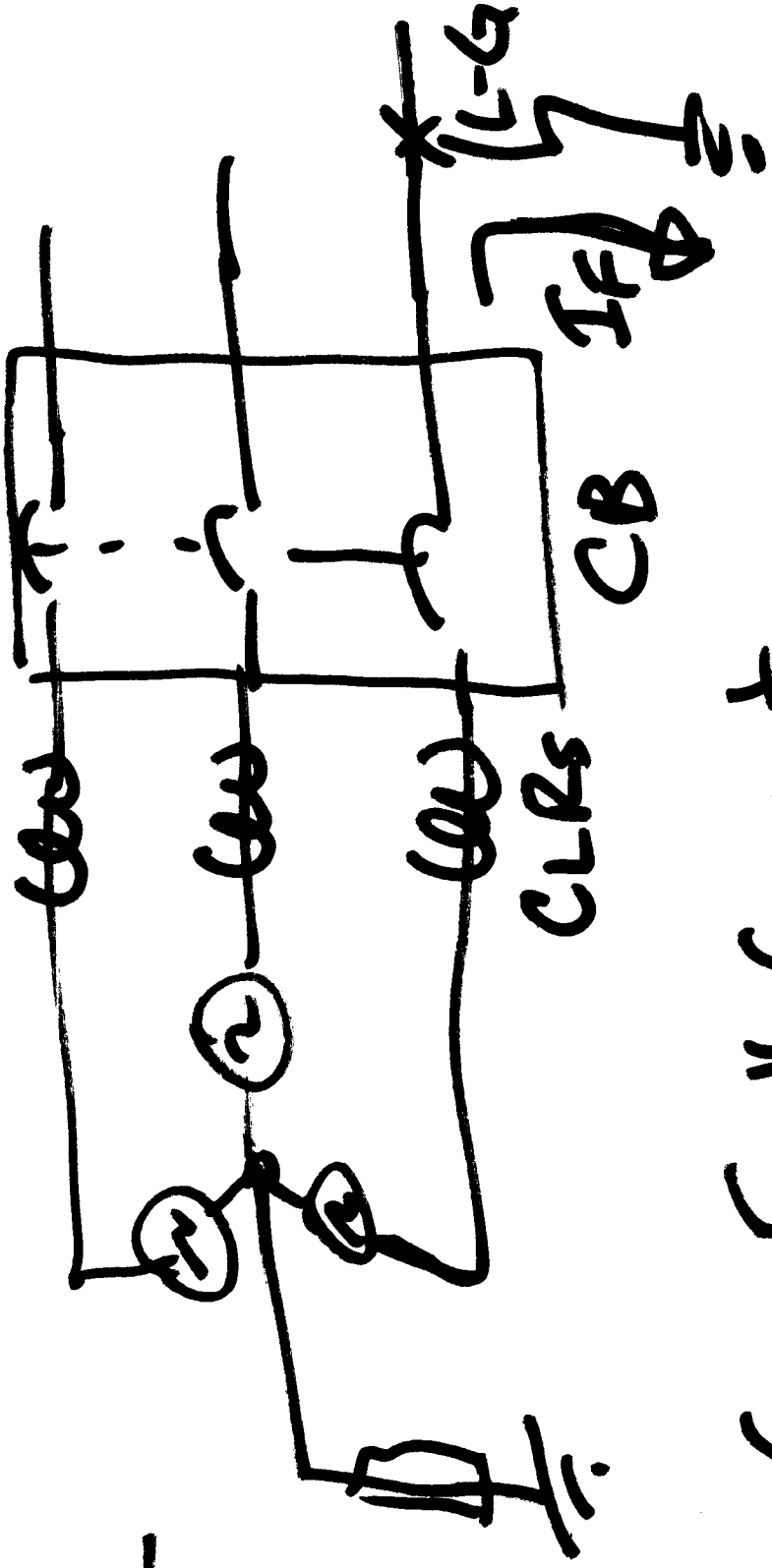
Symm Comp:
Question 4C

$$\begin{bmatrix} Z_{00} & 0 & 0 \\ 0 & Z_{11} & 0 \\ 0 & 0 & Z_{22} \end{bmatrix}$$

$$\begin{bmatrix} Z_{00} & 0 & 0 \\ Z & & \end{bmatrix}$$

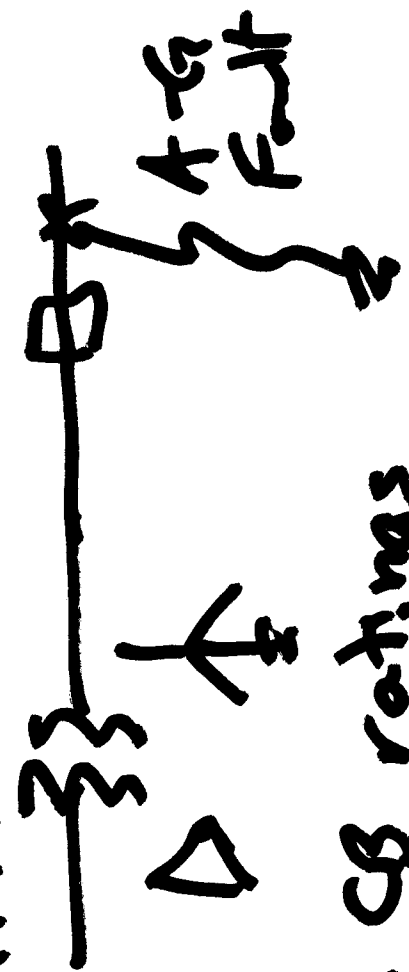
$$\begin{bmatrix} z_{00} & z_{01} & z_{02} \\ z_{10} & z_{11} & z_{12} \\ z_{20} & z_{21} & z_{22} \end{bmatrix} \begin{bmatrix} I_{00} \\ I_{01} \\ I_{02} \end{bmatrix} = \begin{bmatrix} V_{00} \\ V_{01} \\ V_{02} \end{bmatrix}$$

Q 4a)



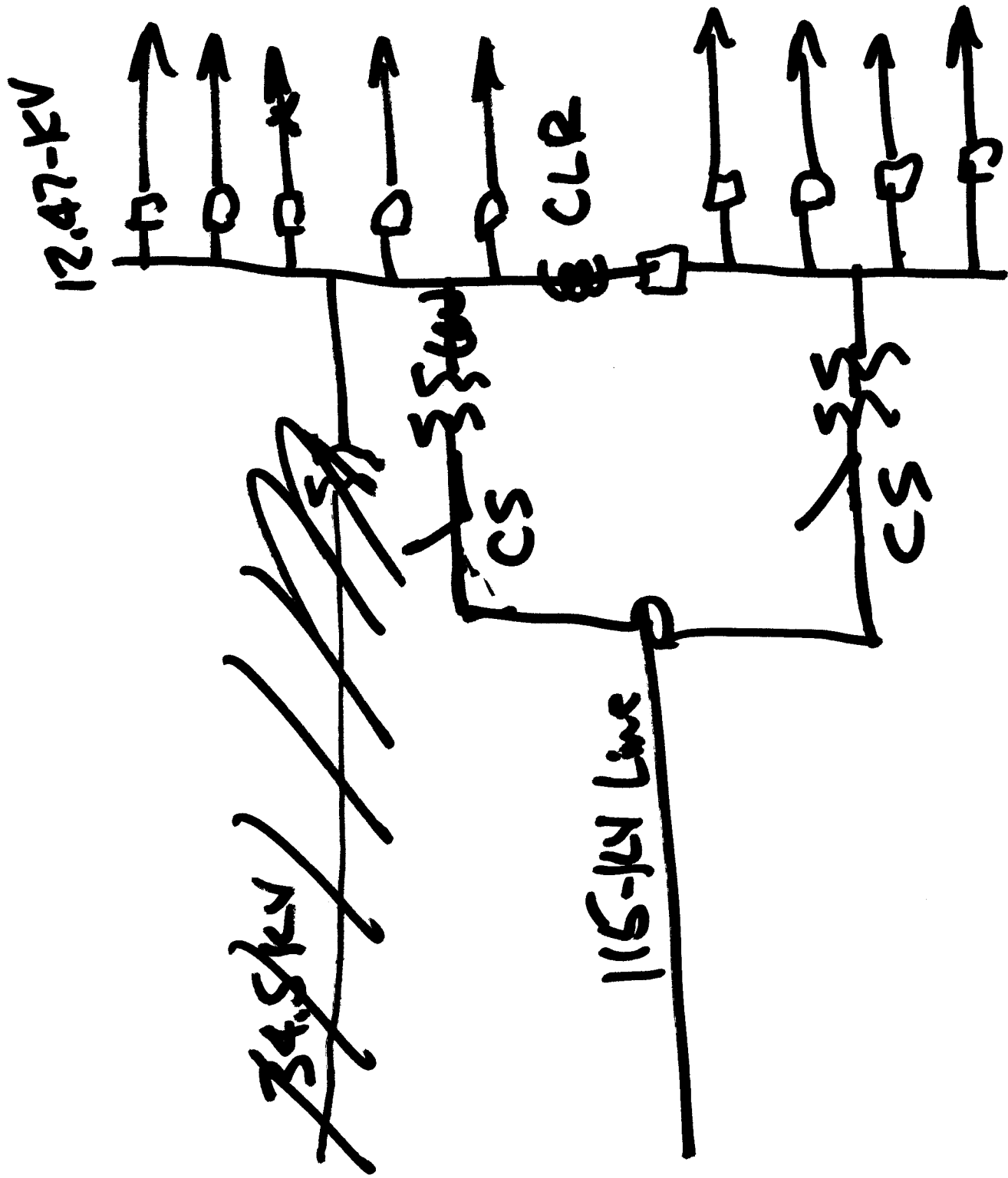
- Limit Gen Fault Current

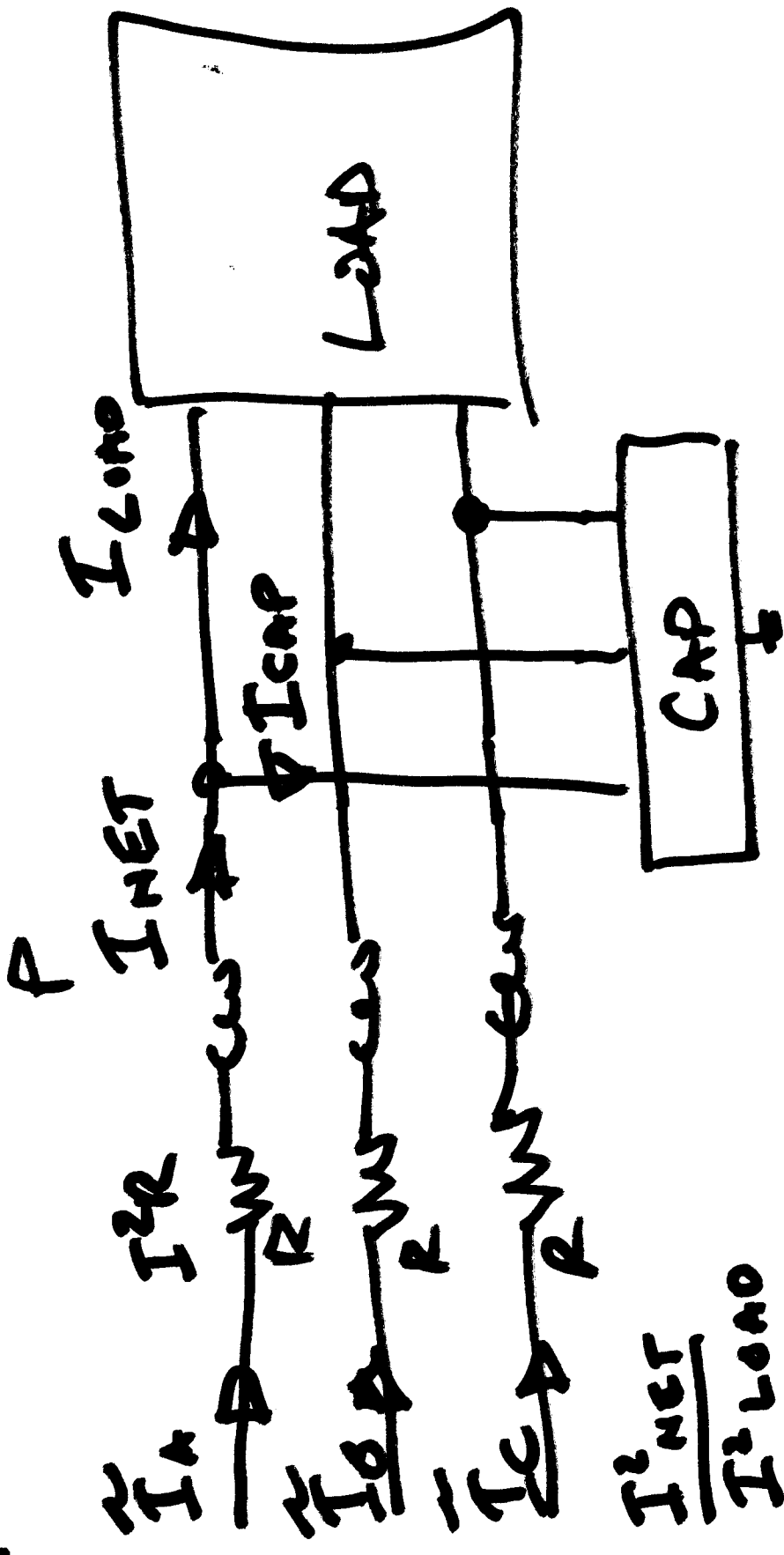
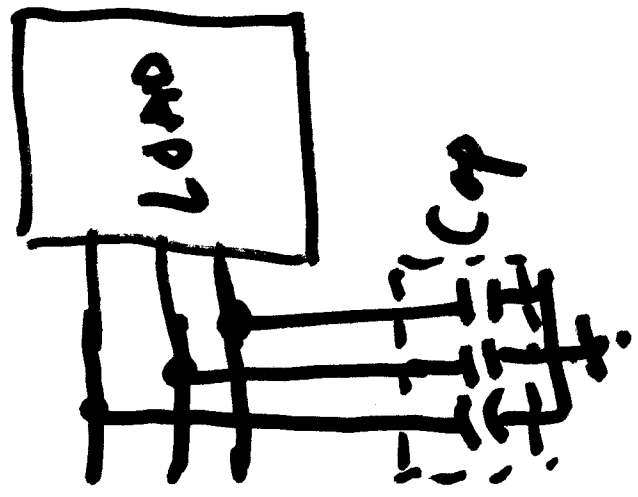
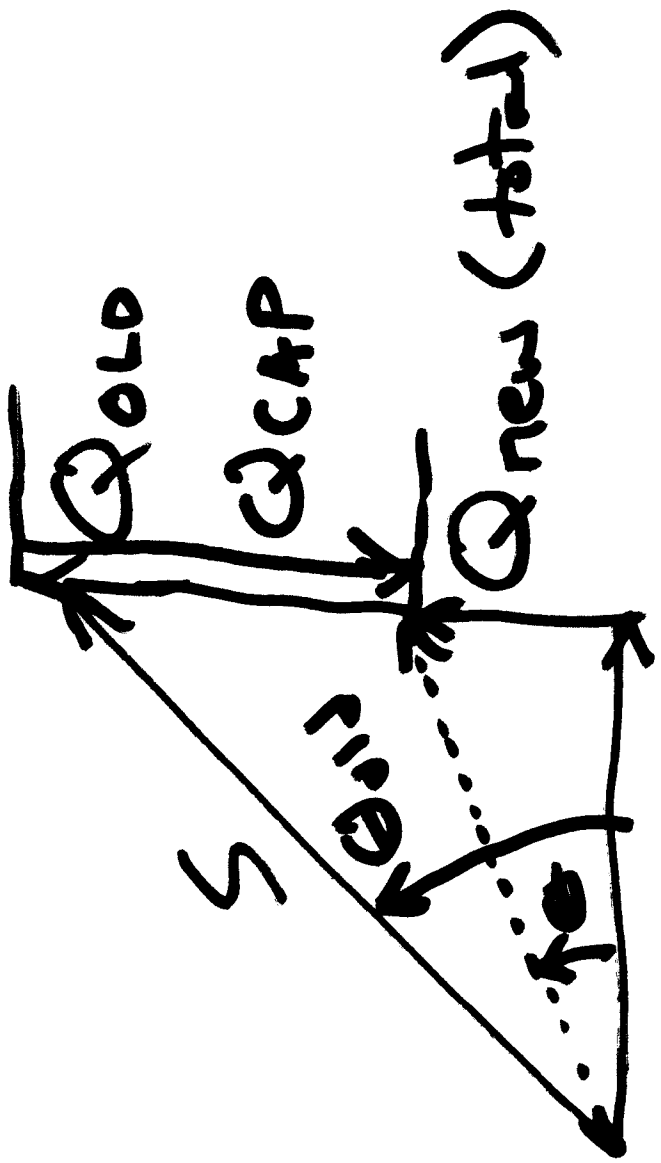
- Limit XFMR Thru-Fault Current



- Limit to CB ratings

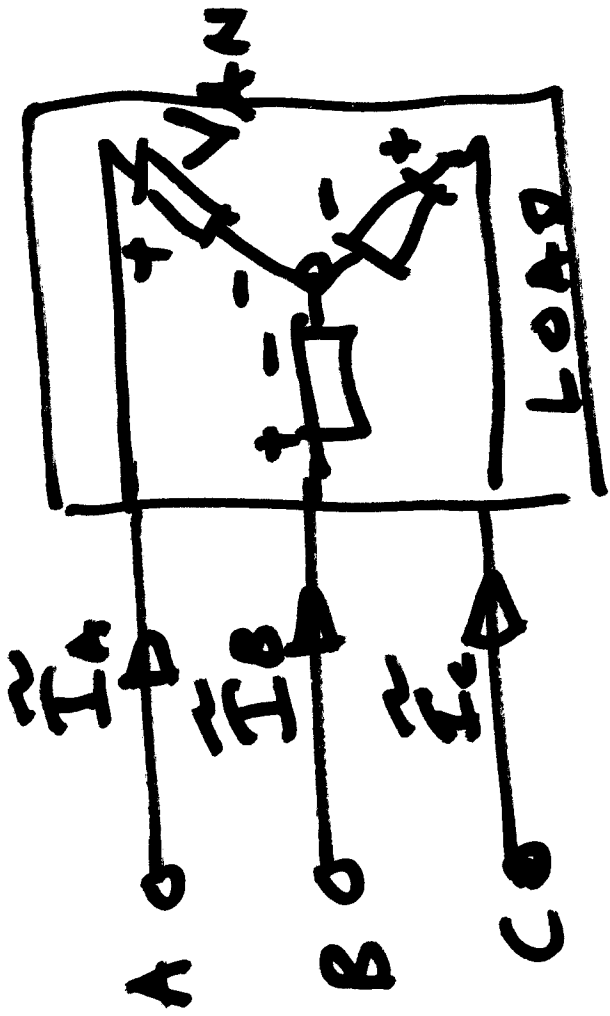
- Arc Flash - reduce energy levels.





$$\frac{I_{NET}^2}{I_{LOAD}^2}$$

PF?



$$S_{TOT} = \frac{\vec{V}_A \vec{I}_A^* + \vec{V}_B \vec{I}_B^* + \vec{V}_C \vec{I}_C^*}{1} = S_{IN}$$

$$\Phi = \angle \vec{I} - \angle \vec{V} = \angle \vec{I} - \angle \vec{V}_L$$

$$\Theta = \angle \vec{S} - \angle \vec{P} = \angle \vec{V} - \angle \vec{I} = \angle \vec{V}_L - \angle \vec{I}$$

$$P_{IN} = S_{IN} \cos \theta$$

$$Q_{IN} = S_{IN} \sin \theta$$

$$PF = \cos \theta = \frac{P}{S}$$