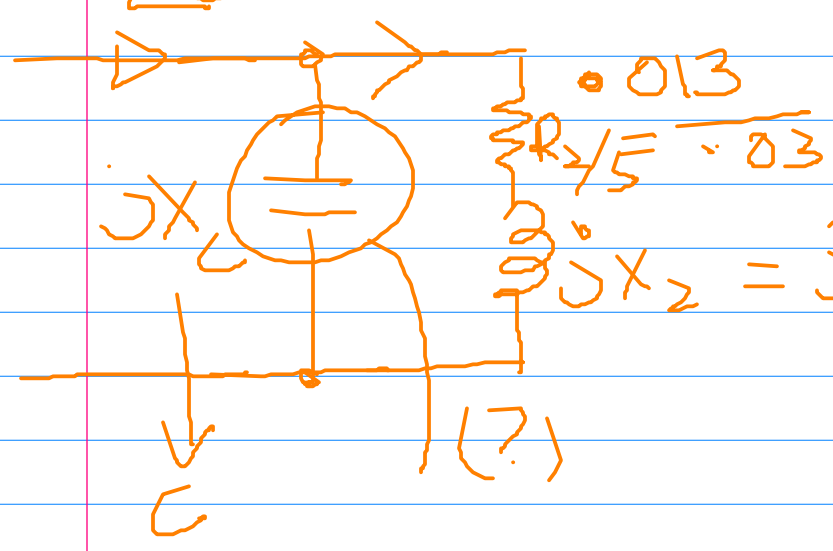
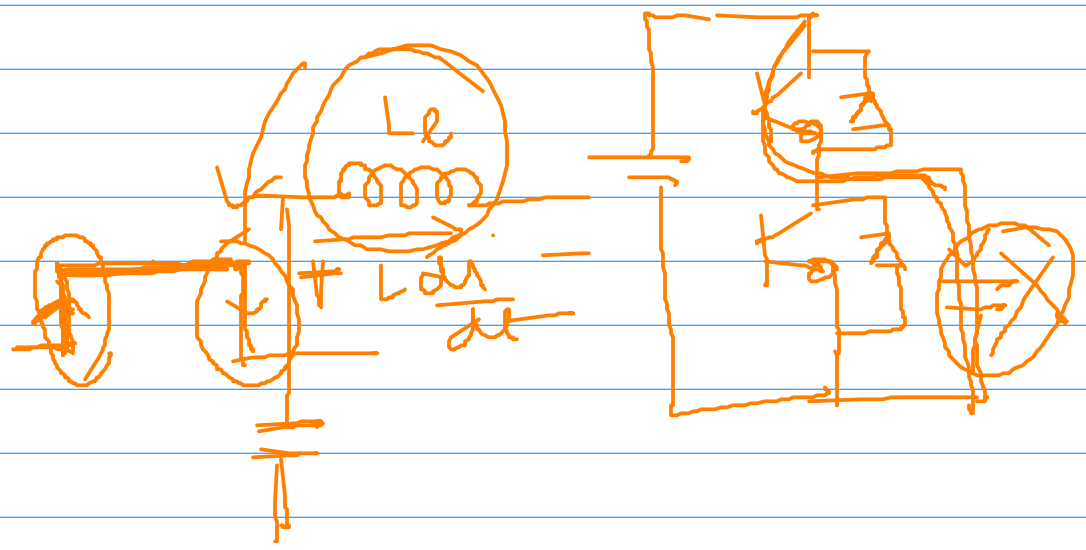
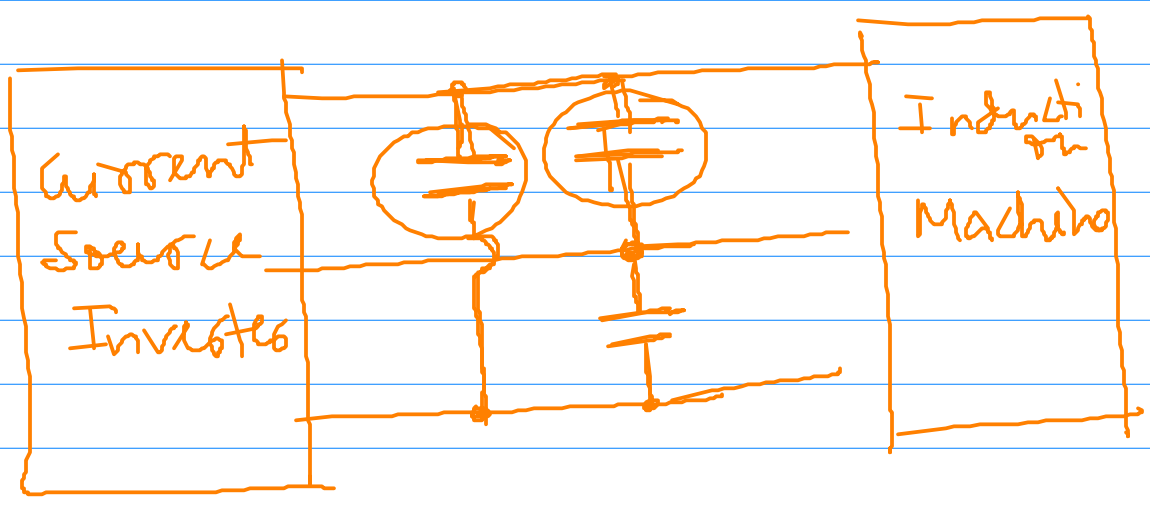
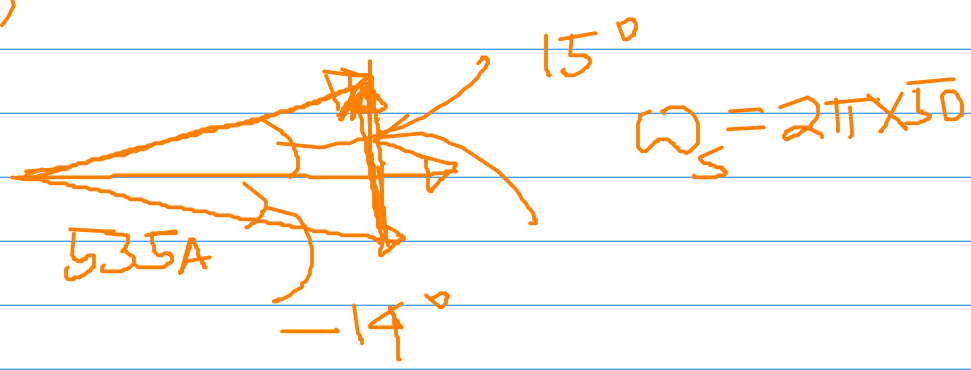


50 Hz
 500 HP, 4 pole, 415 V, squirrel cage induction machine develops rated torque at 3% slip and maximum torque at 12% slip. This machine needs to operate with a Thyristor based current source inverter. What value of capacitors have to be connected in star so that the pf becomes 15° leading seen from the inverter terminals operating at rated torque and speed condition.

$\angle 15^\circ$
 $\omega_{\text{rotor}} = (1-s) \omega_{\text{syn}} = \frac{97 \times 1500}{60} \times \frac{\pi}{180}$



$\phi = 14^\circ$ (lagging)



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