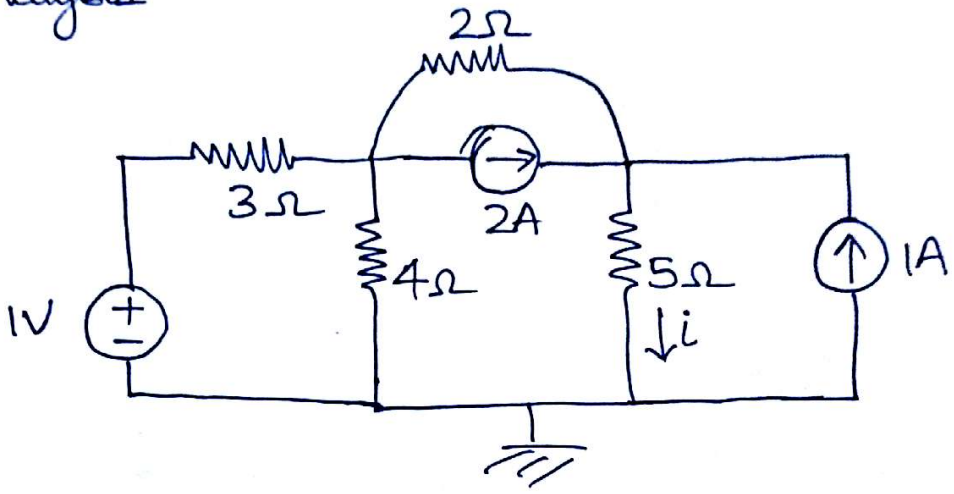
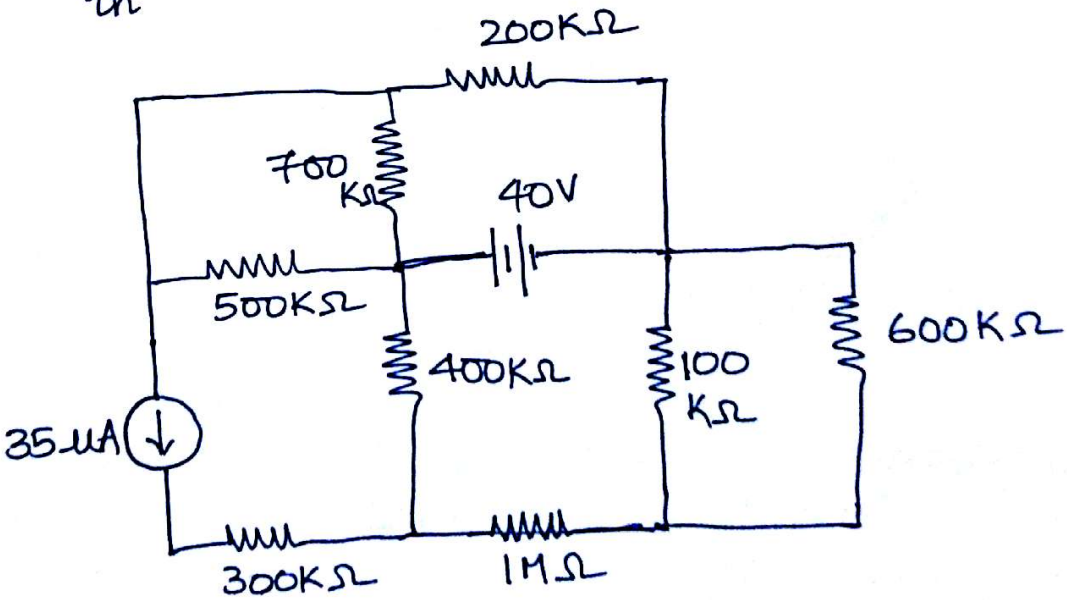
Tutorial-1

1) Determine the current I through the 5Ω resistor using node analysis



2) Find the Thevenin Equivalent circuit with respect to the ~~1nF~~ copper 100 KΩ resistor. You must use Superposition to find V_{th}.



3) Find the current through 4Ω resistor using mesh analysis.

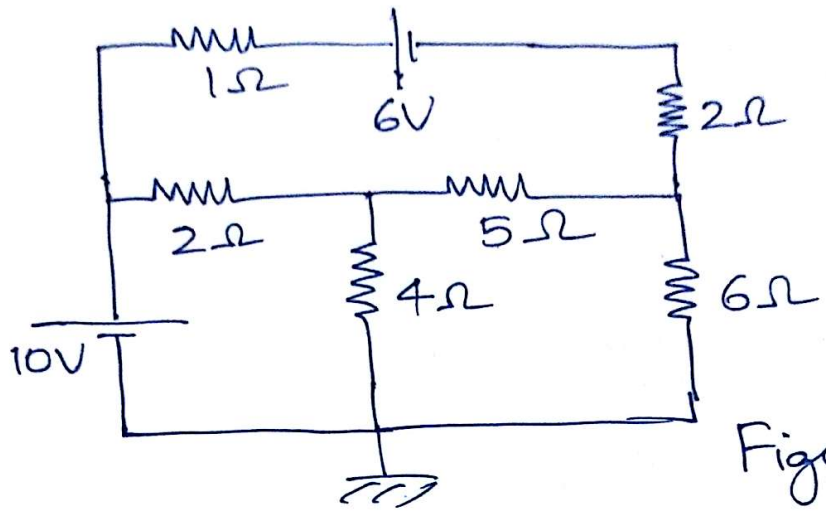


Figure 3

4) The nonseries-parallel circuit shown in Figure 4 is known as a twin T-network. Determine the resistance $R_{eq} = \frac{V_s}{i}$ loading the battery.

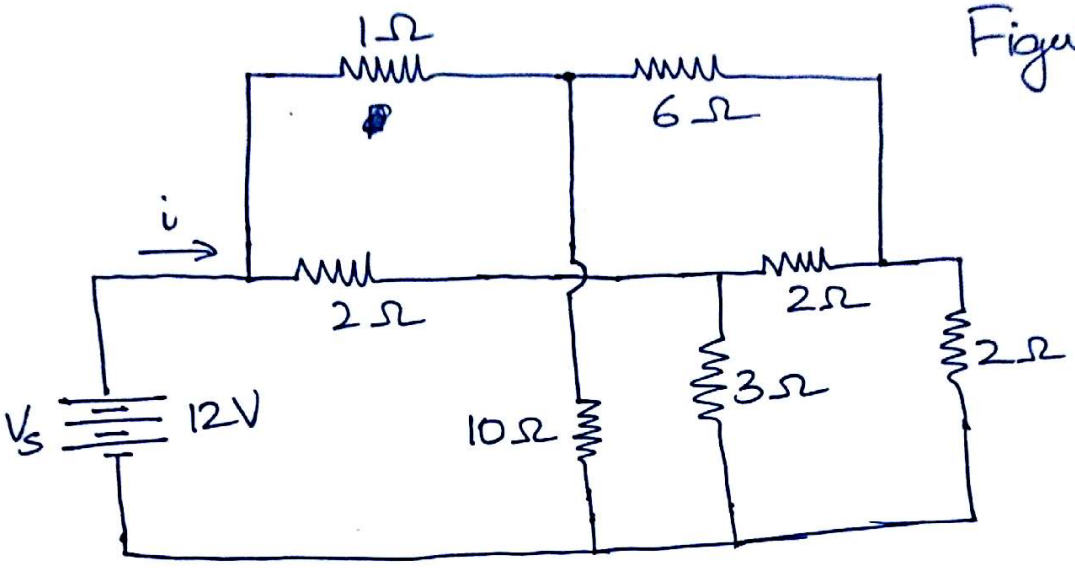
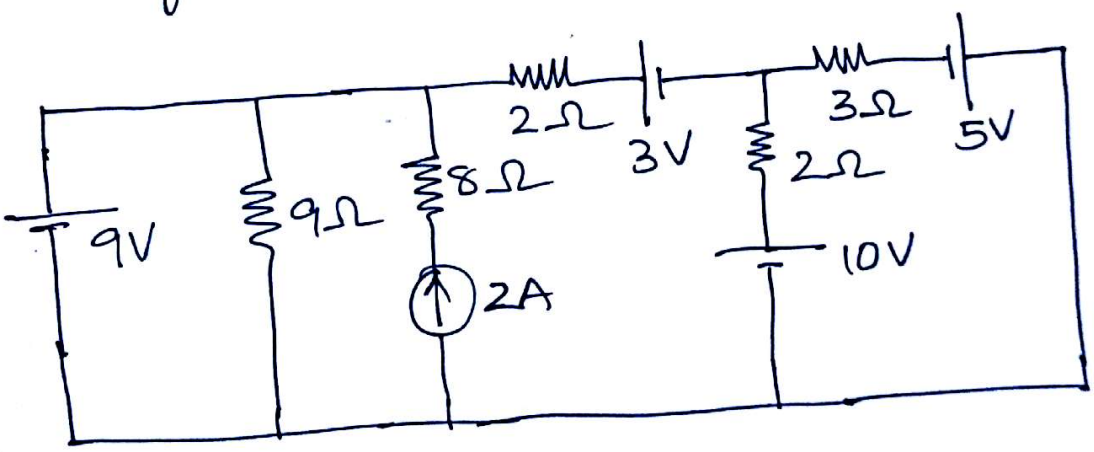


Figure 4

5) In the circuit of Figure 5, find a) the Thevenin equivalent circuit existing between the terminals of 3Ω resistor.



b) Also find the power dissipated across 3Ω.