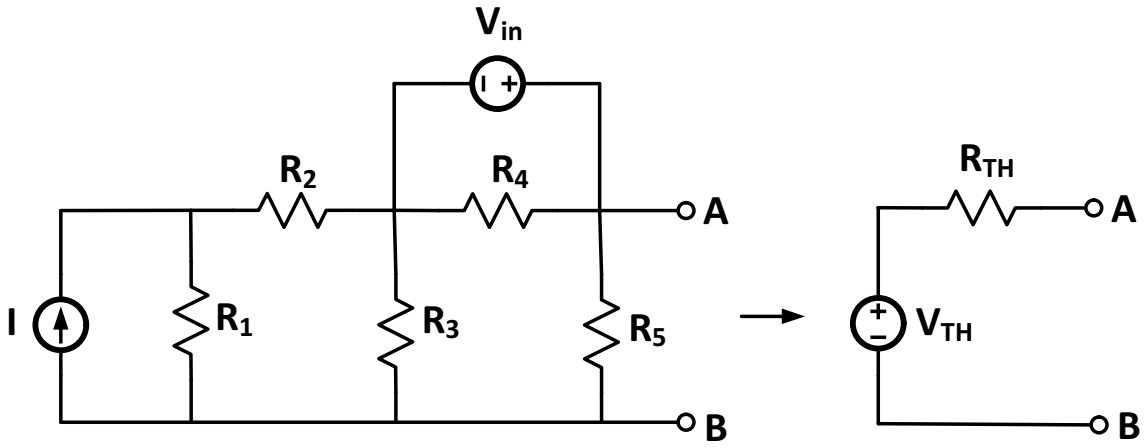
ECE 205 - WS4

Name: **UIN:**

1. In the circuit shown below, I = 0.2 A, $\mathbf{R_1 = 200\ \Omega}$, $\mathbf{R_2 = 100\ \Omega}$, $\mathbf{R_3 = 50\ \Omega}$, $\mathbf{R_4 = 50\ \Omega}$, $\mathbf{R_5 = 100\ \Omega}$, $\mathbf{V_{in} = -10\ V}$.



(a) Determine the Thevenin Equivalent Circuit across the Terminals A-B.

(b) Find the value of resistance to be connected across AB for maximum power transfer.

2. Find current $\mathbf{I}$ in the circuit shown below. Assume $\mathbf{R_1 = 100\ k\Omega}$, $\mathbf{R_2 = 25\ k\Omega}$, $\mathbf{R_3 = 75\ k\Omega}$, $\mathbf{R_4 = 20\ k\Omega}$, $\mathbf{V_{in1} = 12\ V}$, $\mathbf{V_{in2} = 18\ V}$and $\mathbf{I_{in} = 2\ mA}$.