Due Date: 13/12/2019

EHB211E Basics of Electrical Circuits

HOMEWORK 2

For the Spice solutions, provide the schematic showing the voltage and current values and the output file.

1) For the bridge network in Figure 1, find i_o using mesh analysis. Also, obtain and show these values using PSpice program.

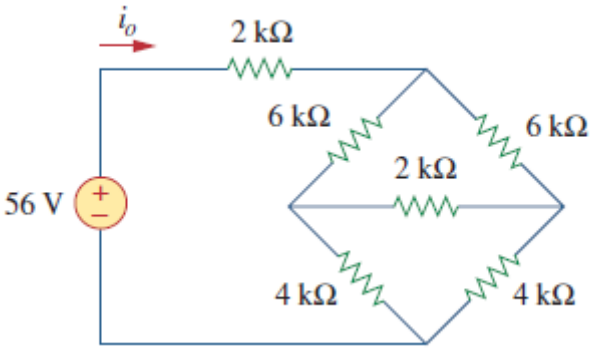

Figure 1

2) Find V1 and V2 using nodal analysis in Figure 2. Also, obtain and show the voltage values using PSpice program.

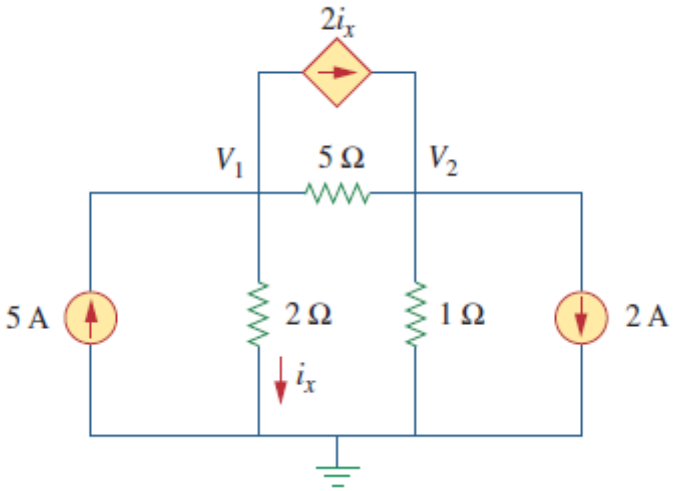

Figure 2

3) For the circuit in Figure 3, find the Thevenin equivalent between terminals a and b. Also, find and show V_{TH} and R_{TH} values using PSpice program.

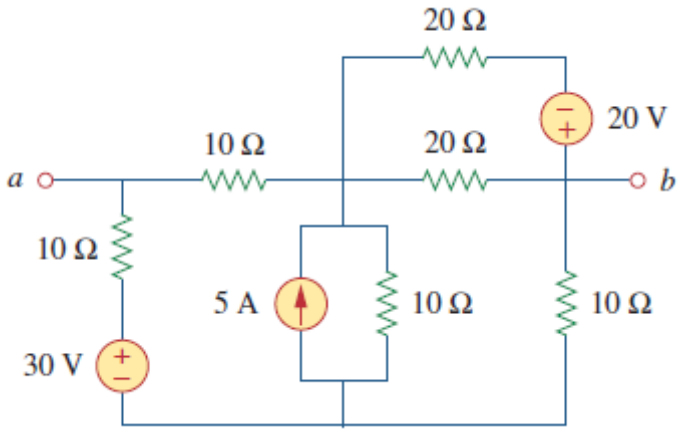

Figure 3

4) Given the circuit in Figure 4, obtain the Norton equivalent as viewed from terminals listed below. Also, find and show I_N and R_N values using PSpice program.

(a) *a-b* (b) *c-d*

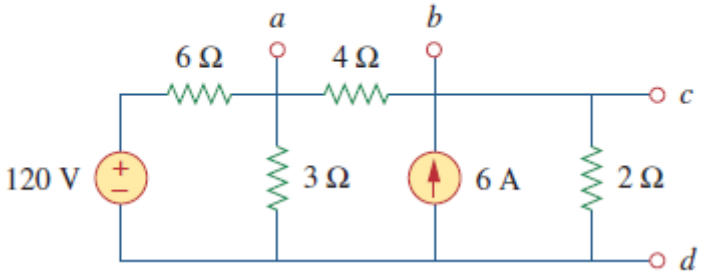

Figure 4

5) Calculate v_0 in the op amp circuit of Figure 5 assuming all op amps are ideal. Also, obtain and show v_0 using PSpice program.

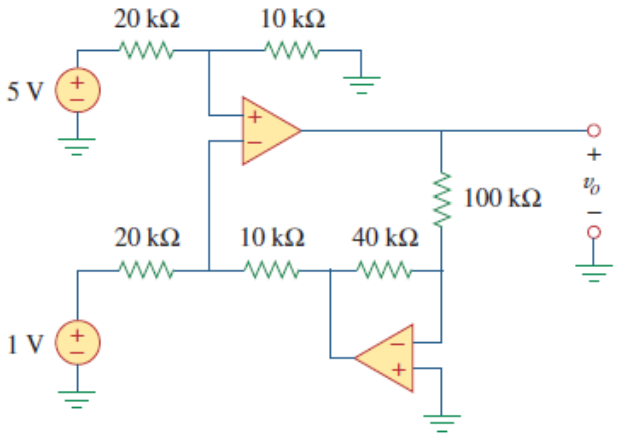

Figure 5

6) Calculate i_0 in the op amp circuit of Figure 8 assuming all op amps are ideal. Also, obtain and show i_0 using PSpice program.

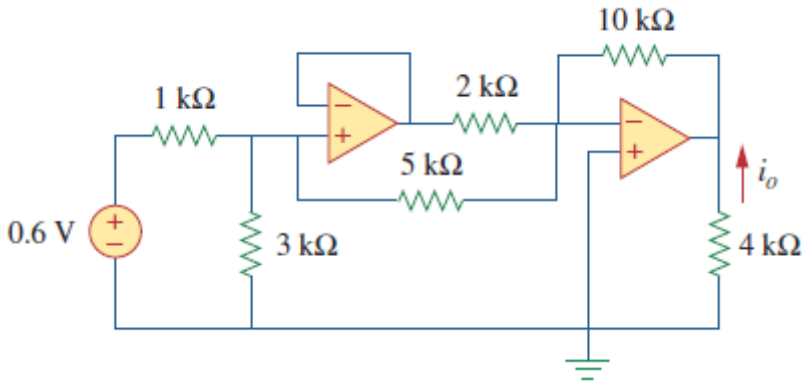

Figure 6