HW6 ECE2100 Autumn 2014

Lectures Covered: Lecture50 - Lecture51

HW should be turned in by Monday, Nov. 3, before 4:30pm

Solve all the problems. All problems will not be graded, only a selection of HW problems will be graded.

Show all relevant steps. Don’t just write down the answers.

Late HWs will not be accepted. HW with lowest grade will be dropped. Lecture Students: turn in your HW in class. Recitation students: turn in your HW at the ECE Office Front Desk. HWs turned-in anywhere else will not be accepted.

Show your work on these pages, attach additional pages if necessary.

• Be sure to organize the pages in order and staple them all together, otherwise you will lose one point

• Fill out the following section. You will lose an additional point if you fail to provide these details

Your Last Name_____________________________
Your First Name_____________________________

1. Lecture Student __________ or Recitation Student__________ (check one)
2. If Recitation then fill out the following
   Name of recitation instruction_______________________ Date/time of recitation__________
3. Your Lab Section/Group__________________________________________
**Problem 1:** Use node analysis to determine $i_1$: 

[Diagram of a circuit with labeled resistances and a 4V source.]
Problem 2: Use mesh analysis to determine $i_1$, $v_2$ and $v_3$. 

![Diagram of a circuit with nodes and currents](image-url)
Problem 3: Use node analysis to determine $i_1$, $i_2$ and $v_3$. 
Problem 4: Use mesh analysis to determine $v_1$, $v_2$ and $i_3$. 

![Circuit Diagram]

\[ 50 \text{V} \quad 10 \Omega \quad 20 \text{A} \quad 100 \text{V} \quad 15 \Omega \]
Problem 5: Use node analysis to determine $v_1$, $v_2$ and $i_3$.
Choose a convenient node to ground.
Problem 6: Use node analysis to determine $v_1$, $i_2$ and $i_3$. 

\[ 
\text{Diagram of a network with nodes and voltages.}
\]
**Problem 7:** Choose node or mesh analysis to determine $i_a$ and $i_b$; give reason for your choice.
Problem 8: Choose node or mesh analysis to determine $v_1$ and $i_2$; give reason for your choice.