

## EE 221 – Circuits II

### Homework #2

10 points

*Date Assigned: 8/25*

*Date Due: 9/1*

- 2.1 Derive text equation (11.15). From that, derive (11.16a) and (11.16b). From those, derive (11.17) and (11.18). Finally, derive (11.19) and state the significance of this result. Completely and thoroughly show all of your calculations.
- 2.2 Text problem 11.17.
- 2.3 Text problem 11.19.
- 2.4 Text problem 11.19 but with the variable resistor  $R$  replaced with the impedance  $Z_L$ . Calculate  $Z_L$  for maximum power absorbed by this load, and calculate the value of this maximum power. Does this maximum power value equal that in the previous problem? If not, why not?
- 2.5 Text problem 11.23.
- 2.6 Text problem 11.24.
- 2.7 Text problem 11.31.
- 2.8 Text problem 11.38.
- 2.9 Text problem 11.41. Part (a) only.
- 2.10 Text problem 11.42.
- 2.11 Text problem 11.46. Parts (a) and (b) only.