ECE 4333/6333
Quiz #2
(Ch. 3, 4.1- 4.3)

I. Transmission Lines and Waveguides
   A. Types of guided waves
      1. Transverse electromagnetic (TEM)
      2. Transverse electric (TE)
      3. Transverse magnetic (TM)
   B. General guided wave parameters
      1. Cutoff frequency and wavenumber (propagating and evanescent waves)
      2. Phase constant, attenuation constant
      3. Wave impedance
      4. Phase velocity
      5. Guide wavelength
   C. Conductor and dielectric losses in a waveguide
   D. Parallel plate waveguide (TEM, TE, TM modes)
   E. Rectangular waveguide (TE, TM modes)
   F. Cylindrical waveguide (TE, TM modes)
   G. Coaxial transmission line (TEM, TE, TM modes)
   H. Grounded dielectric slab (TE, TM modes)
   I. Stripline (TEM mode)
   J. Microstrip (Quasi-TEM mode)

II. Microwave Network Analysis
   A. Equivalent network parameters (non-TEM modes)
      1. Equivalent voltage
      2. Equivalent current
      3. Equivalent impedance
   B. Microwave one-ports
   C. Impedance and reflection coefficient symmetry with frequency
   D. N-port microwave networks
      1. Impedance matrix
      2. Admittance matrix
      3. Scattering matrix