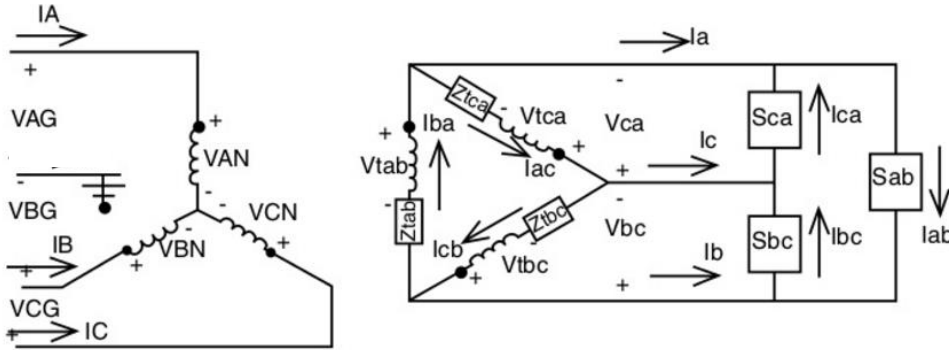


EE 340 - Assignment # 2:

Consider the following 3-phase circuit that is made up of 3 transformers connected in Ungrounded-Wye on the primary side and Delta on the secondary side.



- The load be unbalanced with $S_{ab} = 100 \text{ kVA @ } .9 \text{ PF lag}$, and $S_{bc} = S_{ca} = 50 \text{ kVA @ } 0.8 \text{ PF lag}$,
- The voltage at the load is balanced at $240 \text{ V (line-to-line)}$
- Transformer across a-b is rated at $100 \text{ kVA, } 7200/240 \text{ V, } Z_{tab} = .01 + j.04 \text{ pu}$
- Other transformers are rated at $50 \text{ kVA, } 7200/240\text{V, } Z_{tbc} = Z_{tca} = .015 + j.035 \text{ pu}$

Compute the following:

- a) the secondary line currents I_a, I_b, I_c ,
- b) the primary line currents I_A, I_B, I_C
- c) the primary phase and line voltages,
- d) the kVA loading on each transformer. Are there any overloads?