SCHOOL OF COMPUTING SCIENCE ENGINEERING

Basic Electrical Engineering – EEE101L

DIGITAL ASSIGNMENT -2

Submit DA2 on or before 10th May 2022

1. If M=0.2 H and $v_s = 12 \cos 10t$ in the circuit of Fig.1, find and calculate the currents i1 and i2.

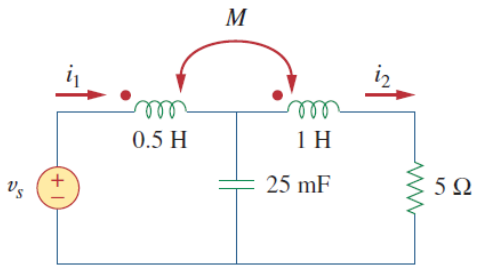


Fig. 1

2. Obtain the Thevenin equivalent circuit for the circuit in Fig. 2 at terminals a-b.

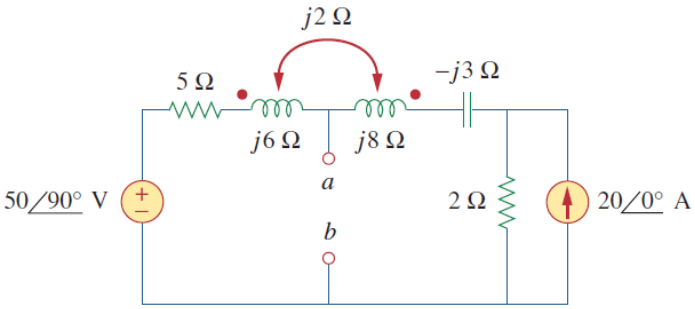


Fig. 2

3. Find current I_o for the circuit shown in Fig. 3

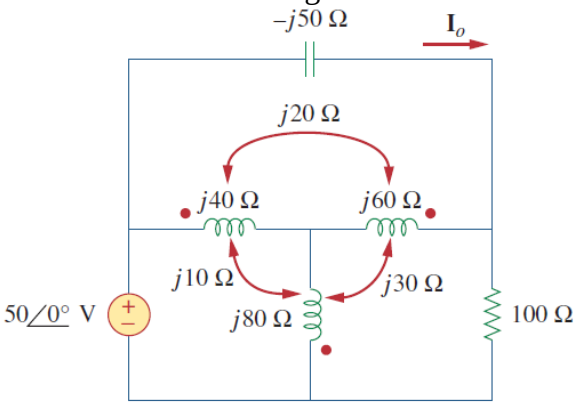
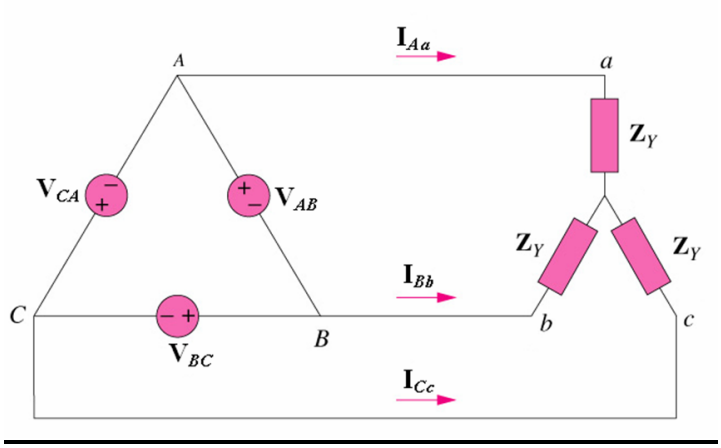
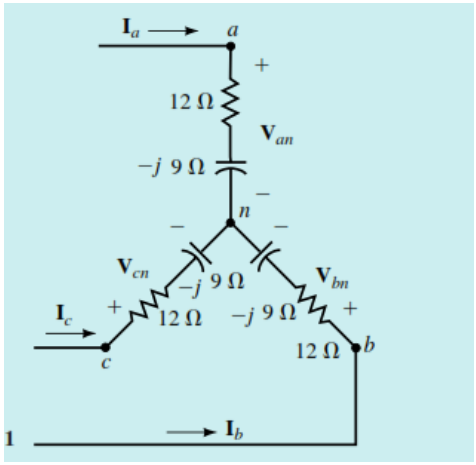


Fig. 3

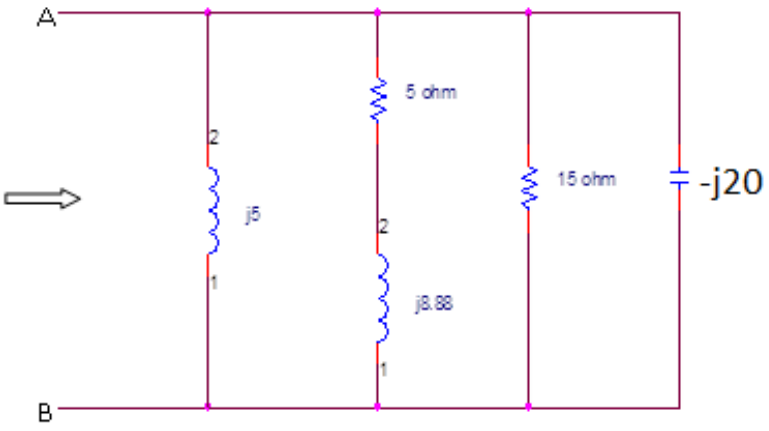
4. A balanced Y - connected load with a phase impedance 40 + j25 Ω is supplied by a balanced, positive-sequence Δ-connected source with a line voltage of 210V. Calculate the phase currents. Use V_{AB} as reference. Draw the phasor diagram.



5. For Figure, suppose V_{an} =120 V∠0°. A) Compute I_a , then determine I_b and I_c by inspection. b) Draw the phasor diagram



6. Find the Z_{eq} for the circuit shown in below Fig.



7.Consider the circuit of below Fig.

i) Find Z_T.

ii) Determine the current I_1, I_2 and I_3.

iii) Calculate the total power provided by the voltage source.