Name:

ID :

# PRINCIPLES OF EE1

## Homework #5 - Group 03

Submission deadline: December 14, 2020.

**IMPORTANT:** You should hand in a copy of your report that contains a full and detailed description of all the work done on the homework. Marks will be deducted if there are sign of violation of regulation and late submission (20% for each day). *You should print out this document and write down your solution directly on it.*

*Tip: You should draw a bounding box for your final answer. Ex: I = 2 + 4 =* $\boxed{6\ A}$

**Problem 1**: **(25 marks)**

Find the steady-state expression for $i_0(t)$ in the circuit in Fig. 1 if $v_s = 80cos2000t\ V$.

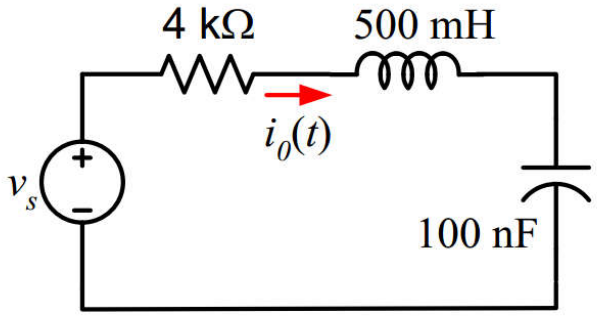


Fig. 1

**Solution:**

**Problem 2**: **(25 marks)**

Use source transformations to find the Thévenin equivalent circuit with respect to the terminals a, b for the circuit shown in Fig. 2

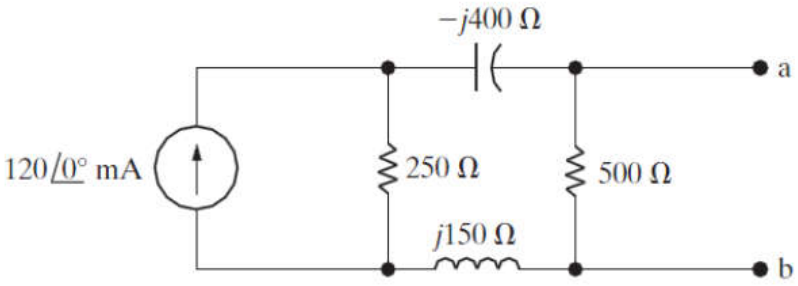


Fig. 2

**Solution:**

**Problem 3**: **(25 marks)**

Find the Thevenin equivalent at terminals a-b of the circuit in Fig. 3.

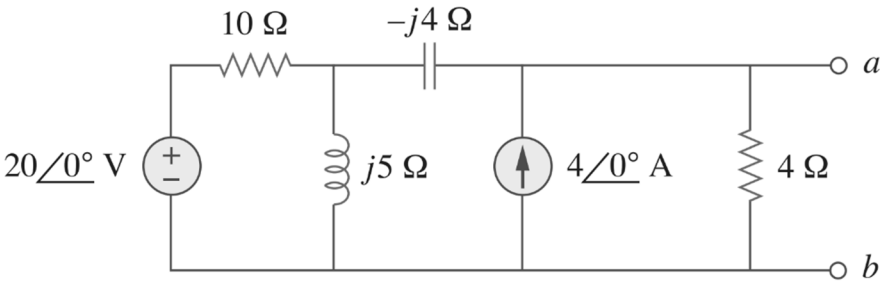


Fig. 3

**Solution:**

**Problem 4**: **(25 marks)**

Solve for $v_o(t)$ in the circuit of Fig. 4 using the superposition principle.

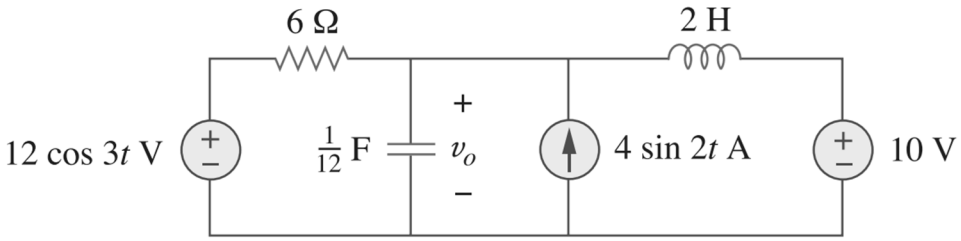


Fig. 4

**Solution:**