Student's name:

Student's ID:

PRINCIPLES OF EE2

Spring 2020

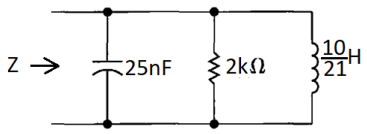
Homework #4

Deadline: 03/04/2020

NOTE:

- While doing your homework, explain your work in detail
- Submit the homework via Blackboard, the name of the PDF file should follow the format: HovaTen_MSSSV_HW#3.
- You can do your HW either by typing equation in Word or hand written papers. Then, before submitting, convert them into PDF format so that your work arrangement will remain the same the way you represent it.
- Hand written works should not be captured by camera only, as it will be hard for me to see your work if the image quality is low. Using CamScanner App on mobile phone to scan your Paper is recommended if you do not possess scanner machine.
- Any late submission will be subtracted by 20% per day. Copying your classmate homework is prohibited. If caught with evidences, violation cases will result in 0 in the marks from both parties, respectively.

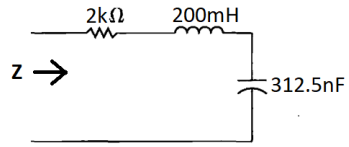
Problem 1 (30 marks): Given the circuit as below figure:



a) Express the s – domain impedance of this circuit in the form of a rational function

b) Calculate the respective poles and zeros from the above impedance expression

Problem 2 (30 marks): Given the circuit as below figure:



a) Express the s – domain impedance of this circuit in the form of a rational function

b) Calculate the respective poles and zeros from the above impedance expression

Problem 3 (40 marks): From the following circuit in the Figure 1, given that the initial energy is zero and the switch is closed at the moment $t = 0$, answer the following questions:

a) Draw down the equivalent s – domain circuit

b) Find the value of V_0 in s – domain circuit

c) Find the expression of v_0 in time domain

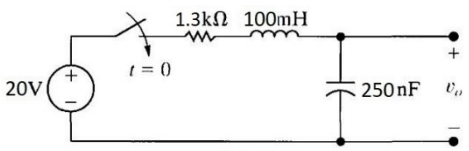


Fig. 1