Name: Student ID:

Pre-tutorial 10 Questions (to be attempted before class on Sept 20th, 2019)

Chapter 16, Ex 2: Parallel RLC

A parallel RLC circuit is measured to have $Q_0 = 200$. Determine the missing component value (R, L or C) given the following component values:

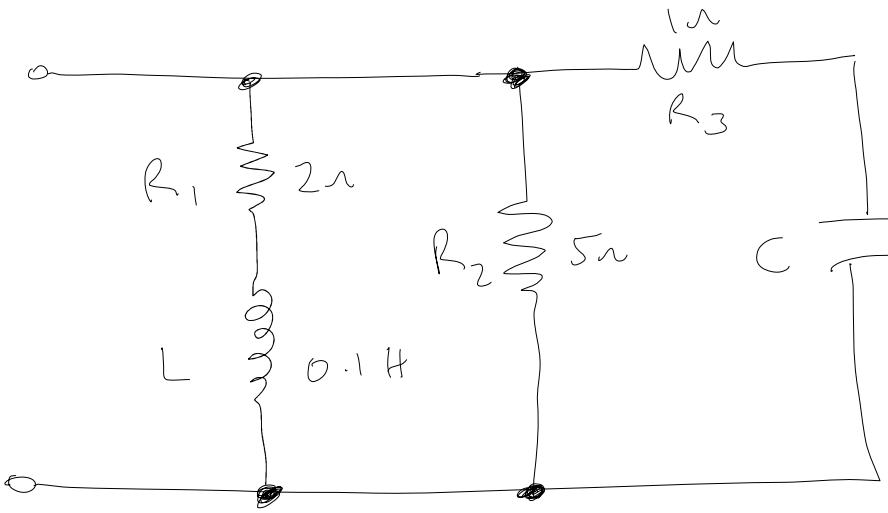
a) R = 1 Ω and C = 1 μF.

b) L = 12 fH and C = 2.4 nF.

c) R = 121.7 kΩ and L = 100 pH.

Chapter 16, Ex 6: Resonant frequency

Derive the resonant frequency of the network shown below. Keep in terms of R1, R2, R3, L and C (i.e. only substitute component values in once you have an equation for the resonant frequency).



NB:

$j = \sqrt{-1}$

$j^2 = -1$

$\frac{-1}{j} = j$