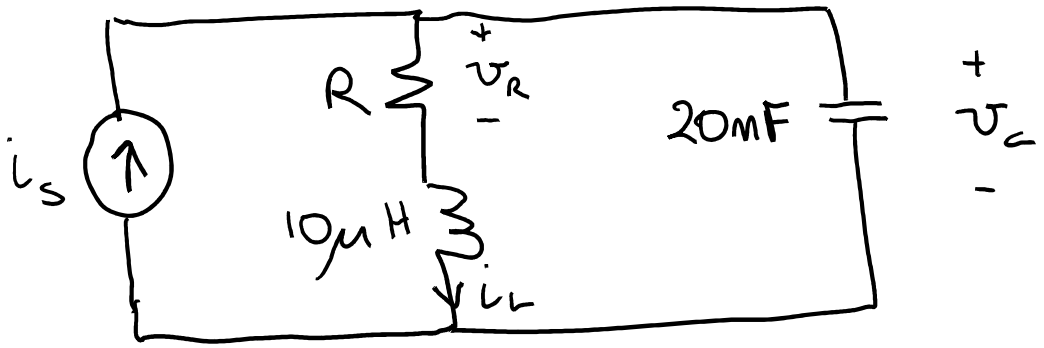
At Tutorial 6 – Marked Question (31st May 2019)

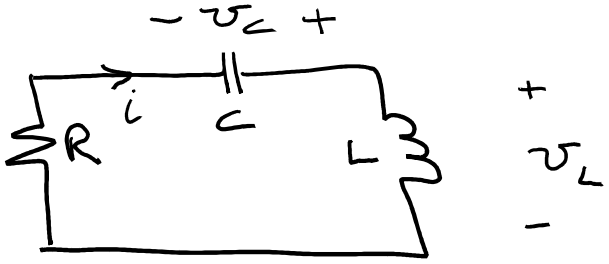
Chapter 9, Ex 50: Driven RLC Circuit



In the series circuit above, set R = 1 Ω. a) Compute α and ω_0. b) If $i_s = 3u(-t) + 2u(t)$ mA, determine $v_R(0^-)$, $i_L(0^-)$, $v_c(0^-)$, $v_R(0^+)$, $i_L(0^+)$, $v_C(0^+)$, $i_L(\infty)$, and $v_c(\infty)$.

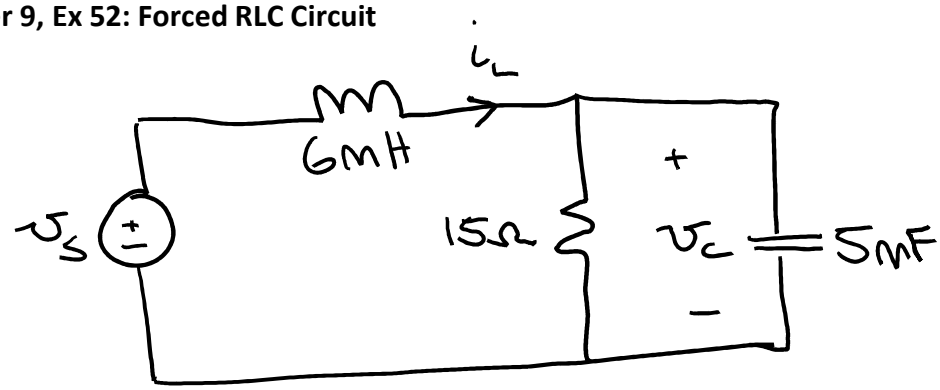
At Tutorial 6 – Unmarked Questions (31st May 2019)

Chapter 9, Ex 42: Source-free RLC Circuit



Component values of R = 2 Ω, C = 1 mF, and L = 2 mH are used to construct the circuit represented above. If $v_c(0^-)$ = 1 V and no current initially flows through the inductor, calculate $i(t)$ at t = 1 ms, 2ms, and 3ms.

Chapter 9, Ex 52: Forced RLC Circuit



Consider the circuit depicted above. If $v_S(t) = -8 + 2u(t)$ V, determine:

a) $v_C(0^+)$
b) $i_L(0^+)$
c) $v_c(\infty)$
d) $v_C(t = 150\text{ms})$