VE311 Electronic Circuits

Homework 09

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The course homework is intended for the students to learn and to think rather that just copy and paste. This is why, me and my TAs team are confident that you're going to learn.

1. Simulate and plot the output response of the circuit depicted in Fig 1. Calculate ω_0 and vary the resistor R_D by using the follow values: 1 kΩ, 10 kΩ, 500 kΩ and 1 MΩ. Explain the results obtained.

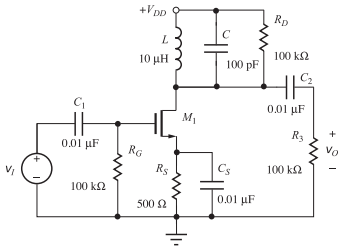

Figure 1: Schematic Diagram of a Common-Gate Amplifier

2. The circuit shown in Fig. 2 a Wein bridge oscillator. If $R_1 = R_2$, C1 = 0.1μF, C2 = 0.22μF and R4 = 10 kΩ, specify R_1, R_2 and R_3 for the circuit to have stable oscillations at f = 1000 Hz.

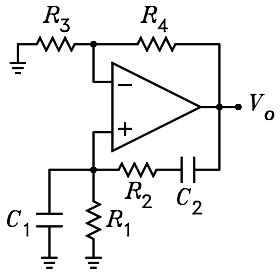

Figure 2: Schematic Diagram of a Common-Gate Amplifier

3. Simulate the above circuit (Fig. 2) in spice... if you require, use a sinusoidal source with the frequency above specified.

   Solve= calculate =analyze it...