Please make sure to include section number, not the day and time, on the cover page.

The self-graded report is due at 7 PM Monday, Mar. 7th. Put yours (with the optional revision) in your section envelop in the black basket in BE 150.

We cannot give you usual one week for the last lab report. For lab #5, initial report is due at 11:59:59 on the day after your last lab session (as registered). The rubric will be posted on early Sunday, and the self-graded paper report (and the optional revision) is due at 7 PM Monday, Mar. 14th.

There are 27 items in the list. Make a mark your lab report with the item number where you have it in your report. Each item is 1 point. Add them up and write it on the cover page next to your name.

Introduction

1. Description and analysis of the RC circuit in detail (not just copy of the manual).
2. (extra) Description and analysis of the RL circuit in detail.
3. Description and analysis of the RLC circuit in detail.

Part 1

4. The circuit diagram of your first RC circuit (including the measurement of the resistor).
5. The screenshot as asked in #4 on the lab manual.
6. The table of $\Delta V$ vs. $\Delta t$ for $\Delta t = \tau, 2\tau, 3\tau, 4\tau, 5\tau$.
7. Comparison of the experimental and theoretical value of the time constant.
8. The screenshot of the voltage on the resistor as a difference between ch. 1 and ch. 2 on the scope.
9. Analysis of the voltage on the resistor using KVL.
10. A theoretical plot of the voltage on the resistor from the analysis done in #9.
11. Comparison of the screenshot from #8 and the plot from #10.
12. The circuit diagram of your second RC circuit (including the measurement of the resistor).
13. Description and justification of the change you made on circuit for the time constant requirement.
14. Description and justification of the change you made on input signal to the circuit.
15. The screenshot of new circuit as described in #4.
Part 2

17. The circuit diagram of your RLC circuit.

18. The table of $V$ on resistor vs. frequency given in #3.

19. Comparison of the theoretical and experimental values of the resonant frequency and max $V$.

20. The plot of $20 \log{(V_r/V_i)}$ vs. $\log{(f)}$ for both measured and calculated values of $V_r$.

20. Description of the plot of the voltage on the inductor vs. frequency.

21. Description of the changes you would make to perform a measurement for #20.

22 (extra) Measurement data from #21

23. Description of the plot of the voltage on the capacitor vs. frequency.

24. Description of the changes you would make to perform a measurement for #23.

25 (extra) Measurement data from #24

Conclusion

26. The summary of the topics you learned in this lab demonstrated with the result of your lab activity.

27. Your personal appreciation of the lab. (What you like/hate, the difficulties/inspirations while you working on the lab. Any suggestion on how to improve the future lab #4)