

Laboratory 4 – Analog (continuous-time) filters: design and analysis

Objectives:

Write one or two sentences in your own words in this section about the objectives of this lab. (**Do Not** copy the lab objectives from the Lab instructions)

Exercise 1 – Frequency response of a RC circuit.

- Insert a Table here that lists the data that you obtained from the lab (i.e. the RC circuit)
- Insert the graph here that plots the gain and phase responses based on the data you obtained from the lab
- Comment on the plots. What type of filter is the RL circuit? Explain.

Exercise 2 – Frequency response of a RL circuit with a parallel inductor.

- Insert a Table here that lists the data that you obtained from the lab (i.e. the RL circuit)
- Insert the graph here that plots the gain and phase responses based on the data you obtained from the lab
- Comment on the plots. What type of filter is the RL circuit? Explain.

Exercise 3 – Frequency response of a series RLC circuit.

- Insert a Table here that lists the data that you obtained from the lab (i.e. the series RLC circuit)
- Insert the graph here that plots the gain and phase responses based on the data you obtained from the lab

- Record the center-frequency of the series LCR filter circuit.
- Comment on the plots. What type of filter is the series RLC circuit? Explain.

Exercise 4 – Analog filter design.

- Draw the resulting filter circuit with all the values included.
- Insert a Table here that lists the data that you obtained from the lab
- Insert the graph here that plots the gain and phase responses based on the data you obtained from the lab