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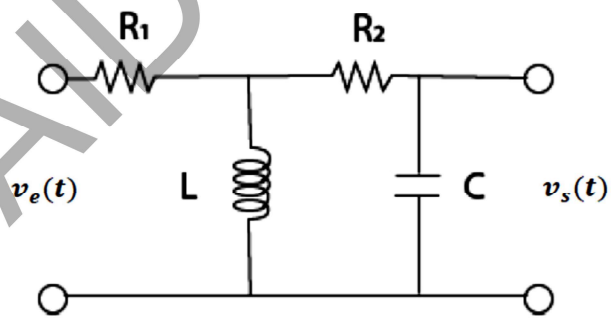
PW4: Transfer function and its response using MATLAB-Simulink- *Part 2*

Objective:

The objective of the practical work is to learn the necessary MATLAB commands for modelling and simplifying functional diagrams of a linear control system using both Script and Simulink blocks.

Description:

In this Practical Work, students must find the differential equation (D.E.) of the electrical circuit in Figure 1.



1- Find the differential equation (D.E.) of this circuit.

2- Find the transfer function (TF) of this system $H(s) = \frac{V_S(s)}{V_e(s)}$

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In MATLAB and Simulink, do this (Programmatically) :

1- Create the transfer function of the system in both Script and Simulink
2- Draw the step response in both Script and Simulink.
3- Put this T.F. in a closed loop called ***SYS(s)*** and draw its step response in both Script and Simulink.
4- Extract the poles of the open-loop H(s) and closed-loop SYS(s).
5- Find if the systems H(s) and SYS(s) are stable or not.

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