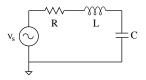
### **SEQUEL:** Exercises

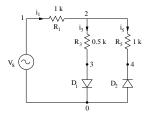
Mahesh B. Patil
Department of Electrical Engineering
IIT Bombay
mbpatil@ee.iitb.ac.in

# Frequency Response of *RLC* circuit



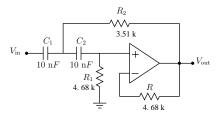
Plot  $|\mathbf{I}|$  versus f (log-log) for  $R=1\,\mathrm{k}\Omega$ ,  $L=1\,\mathrm{m}H$ ,  $C=1\,\mu F$ . Change R and see its effect on the frequency response. Compare with theory.

### A diode circuit



Plot  $V_2$  versus  $V_1$  for -5  $V < V_s < 5$  V. (copy/paste/edit diode\_circuit\_1.sqproj).

## A second-order Op-Amp filter



Plot the magnitude of  $V_{\rm out}$  as a function of frequency for a fixed input. (Copy/paste/edit low\_pass\_filter\_1.sqproj).

#### A modulo-6 counter

Design a modulo-6 binary counter with the following states:

```
0 0 0
0 0 1
0 1 0
0 1 1
1 0 0
1 0 1
0 0 0
```

(Copy/paste/edit jkffcntr.sqproj).