***Electrical Engineering Department***

***1st year of Communication***

***Electric circuits 2 (2017/2018)***

***Sheet (4)***

1. *Design a series RLC type band-pass filter with cutoff frequencies of*

*10 kHz and11 kHz.*

*Assuming C= 80 pF, find R, L, and Q.*

1. *Determine the range of frequencies that will be passed by a series RLC band-pass filter with R= 10Ω, L= 25mH, and C= 0.4 µF. Find the quality factor.*
2. *The circuit parameters for a series RLC band-stop filter are R= 2 kΩ, L= 0.1 H, C= 40 pF. Calculate:*

*(a) The center frequency*

*(b) The half-power frequencies*

*(c) The quality factor.*

1. *Find the bandwidth and of the band-stop filter shown in the figure*

