

Assignment on passive filters

- (1) Design a constant K-low pass filter having $f_c = 2\text{ KHz}$ and design impedance $R_o = 600\Omega$. Obtain the value of attenuation at ~~2KHz~~ 4 KHz .
page No - 762. (A. Chakrabarty)
- (2) Design a constant K-high pass filter, having $f_c = 4\text{ KHz}$ and design impedance $R_o = 600\Omega$.
- (3) Design an R-L HP filter with $f_c = 2\text{ KHz}$ and having $R = 2\text{ K}\Omega$.
- (4) In a series LCR type BPF, $L = 50\text{ mH}$, $C = 127\text{ nF}$ and $R_F = 63\Omega$. Determine
(i) the resonance frequency
(ii) the band width.
(iii) the cut-off frequencies.
- (5) In a LCR type band stop filter $R = 1\text{ K}\Omega$, $L = 115\text{ mH}$, $C = 400\text{ pF}$. Determine (i) the bandwidth (ii) cutoff frequency (iii) output voltage at f_r , f_1 and f_2 .
- (6) In a series resonance type BPF, $C = 1.8\text{ pF}$, $L = 25\text{ mH}$, $R_F = 52\Omega$ and $R_L = 9\text{ K}\Omega$. Find f_r and BW.