**Chapter 10, Solution 94.**

If we select $C_1 = C_2 = 20\ nF$

$$C_T = \frac{C_1 C_2}{C_1 + C_2} = \frac{C_1}{2} = 10\ nF$$

Since $f_o = \frac{1}{2\pi\sqrt{LC_T}}$,

$$L = \frac{1}{(2\pi f)^2 C_T} = \frac{1}{(4\pi^2)(2500\times10^6)(10\times10^{-9})} = 10.13\ mH$$

$$X_c = \frac{1}{\omega C_2} = \frac{1}{(2\pi)(50\times10^3)(20\times10^{-9})} = 159\ \Omega$$

We may select $R_i = 20\ k\Omega$ and $R_f \geq R_i$, say $R_f = 20\ k\Omega$.

Thus,

$$C_1 = C_2 = \textbf{20 nF}, \quad L = \textbf{10.13 mH} \quad R_f = R_i = \textbf{20 k}\Omega$$