9.18)

b) The exact response is shown in blue while the Bode magnitude response is shown in red.

\[ H(\omega) = 5 \frac{(1 + j\omega/500)^2}{(1 + j\omega/5)(1 + j\omega/50)} \]
9.26)  
   a) $\omega_o = 10 \text{ krad/s}, \quad B= 250 \text{ rad/s}, \quad Q= 40, \quad \omega_{c1} = 9.876 \text{ krad/s}, \quad \omega_{c2} = 10.126 \text{ krad/s}$  
   b) Yes, $L = 40 \text{ mH}, \quad C = 0.25 \mu\text{F}$  

9.27) $R = 6 \Omega, \quad L = 106.1 \mu\text{H}, \quad C = 23.87 \mu\text{F}$

9.23)  
$$H(\omega) = 20 \left( \frac{1 + j \omega/10}{1 + j \omega/100} \right) \frac{j \omega}{j \omega}$$

9.42)  
Several designs are possible.  
One possible design uses three identical active lowpass filters in cascade.  
Each with $R_s = 10.03 \text{ k}\Omega, \quad C_f = 10 \text{ nF}, \quad R_f = 15.91 \text{ k}\Omega$

9.43)  
Several designs are possible.  
One possible design uses three identical active highpass filters in cascade.  
Each with $R_s = 7.958 \text{ k}\Omega, \quad C_s = 10 \text{ nF}, \quad R_f = 25.16 \text{ k}\Omega$

9.53)  
A simulation was performed using LTSpice and the "simple" op amp model. The output voltage is shown in blue and the capacitor voltage in green.