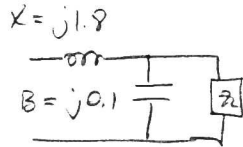


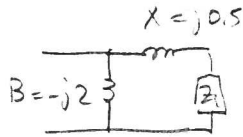
1 5.1(a)



$$j\omega L = j1.8 \cdot 100 \Omega \rightarrow L = 9.5 \text{ nH}$$

$$j\omega C = j0.1 \cdot \frac{1}{100} \rightarrow C = 0.05 \text{ pF}$$

5.1(b)



$$j\omega L = j0.5 \cdot 100 \rightarrow L = 25 \text{ nH}$$

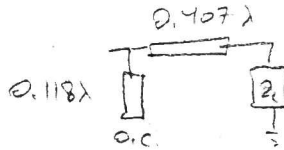
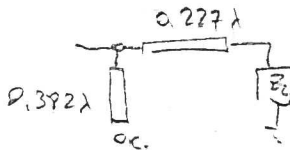
$$j\omega C = -j\frac{1}{2} \cdot 100 \rightarrow C = 2.6 \text{ nF}$$

Note: other solutions possible...

2 5.2(a) $Z_L = Z_0 - jX$

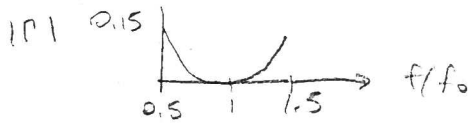
5.2(b) $Y_L = Y_0 - jB$

3 $Z_L = 100 + j80 \Omega, Z_0 = 75 \Omega$

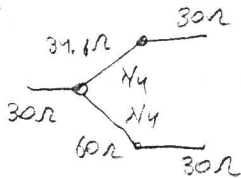


4 5.16(a)

$$Z_1 = 45.9 \Omega, Z_2 = 32.4 \Omega, Z_3 = 19.3 \Omega, Z_4 = 13.6 \Omega$$



5 7.6



$$S_{11} = 0$$

$$S_{22} = 0.25$$

$$S_{33} = 0.75$$