

Sheet 5 Problem 3

$$a) L = C_4 \frac{R_1 R_3 R_5}{R_2}$$

$$\therefore R_1 = R_3 = R_5 = R_2 = 10K\Omega$$

$$\therefore C_4 = 0.1\mu F$$

$$b) X_{C_4} = \frac{1}{2\pi f C_4}$$

$$C_4 = 15.9nF$$

$$L = C_4 \frac{R_1 R_3 R_5}{R_2}$$

$$\text{if } R_1 = R_3 = R_2 = 10K\Omega, R_5 = 1K\Omega$$