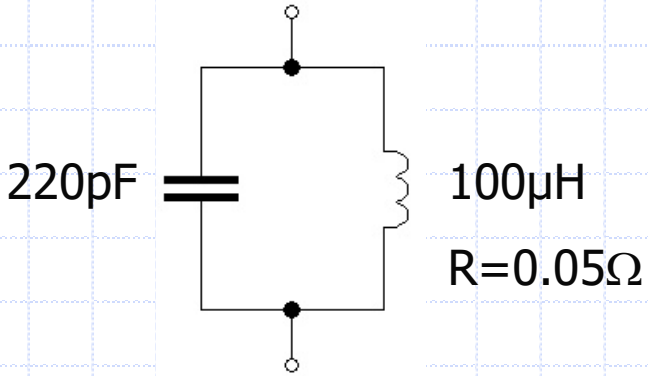
QUIK THINKAZ

WORK OUT THE FOLLOWING:

a) Tuned frequency

b) Impedance at tuned frequency

c) Half-width of filter



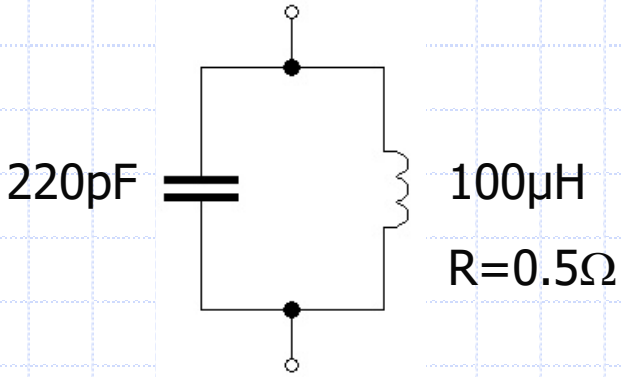
QUIK THINKAZ

WORK OUT THE FOLLOWING:

a) Tuned frequency

b) Impedance at tuned frequency

c) Half-width of filter



$f_o = 1/ 2\pi \sqrt{(LC)}$

$f_o = 1 / 2 \times 3.14 \times \sqrt{(100 \times 10^{-6} \times 220 \times 10^{-12})}$

$f_o = 1 / 6.28 \times \sqrt{(22 \times 10^{-15})}$

$f_o = 1 / 6.28 \times 148.3 \times 10^{-9}$

$f_o = 1 / 931.5 \times 10^{-9}$

$f_o = 1.07 \times 10^6$ Hz or 1.07 MHz

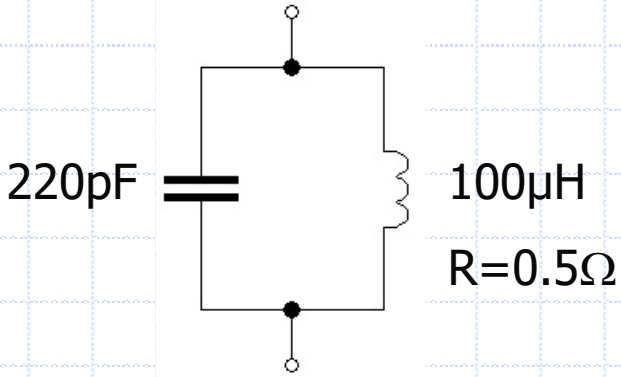
QUIK THINKAZ

WORK OUT THE FOLLOWING:

a) Tuned frequency

b) Impedance at tuned frequency

c) Half-width of filter



f_o = 1.07 MHz

$Z_o = L / RC$

$Z_o = 100 \times 10^{-6} / (0.5 \times 220 \times 10^{-12})$

$Z_o = 100 \times 10^{-6} / 110 \times 10^{-12}$

$Z_o = 909 \times 10^3\ \Omega$ or 909KΩ

QUIK THINKAZ

WORK OUT THE FOLLOWING:

a) **Tuned frequency** — f_o = 1.07 MHz

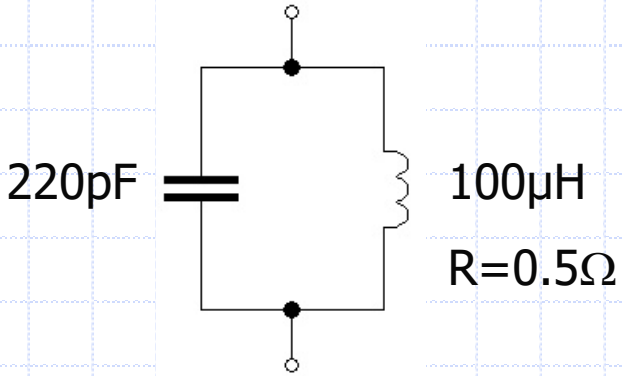
b) **Impedance at tuned frequency** — Z_o = 909KΩ

c) **Half-width of filter** — $\delta f = R / 2 \pi L$

$\delta f = 0.5 / (2 \times 3.14 \times 100 \times 10^{-6})$

$\delta f = 0.5 / 628 \times 10^{-6})$

δf = 796 Hz



QUIK THINKAZ

WORK OUT THE FOLLOWING:

a) Tuned frequency — f_o = 1.07 MHz

b) Impedance at tuned frequency — Z_o = 909KΩ

c) Half-width of filter — δf = 796 Hz