

Dashboard > Courses > School Of Engineering & Applied Sciences > B.Tech. > B.Tech. Cohort 2020-2024 > Semester-I Cohort 2020-24 > EECE105L-Odd 2020 > 18 December - 24 December > Quiz 5

Started on Friday, 12 February 2021, 7:09 PM

State Finished

Completed on Friday, 12 February 2021, 7:54 PM

Time taken 45 mins 1 sec

Grade 5.00 out of 5.00 (100%)

Question 1

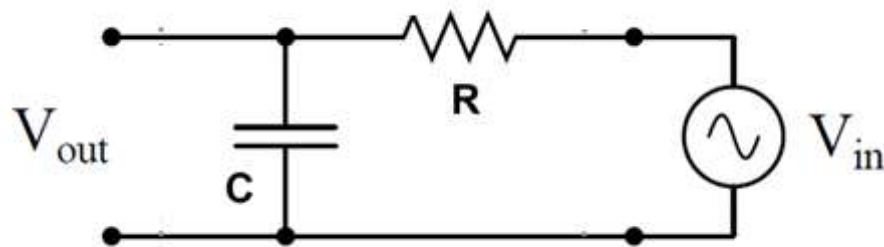
Correct

Mark 1.00 out of

1.00

The circuit shown below is a _____ with a cut off frequency of _____.

Given $R=39\text{ k}\Omega$ and $C=79\text{ nF}$.



Select one:

- ☒ Low pass filter with cut off frequency of 51.683 Hz ✓
- ☐ High pass filter with cut off frequency of 51.683 Hz
- ☐ High pass filter with cut off frequency of 0.052 Hz
- ☐ Low pass filter with cut off frequency of 0.052 Hz

Your answer is correct.

The correct answer is: Low pass filter with cut off frequency of 51.683 Hz



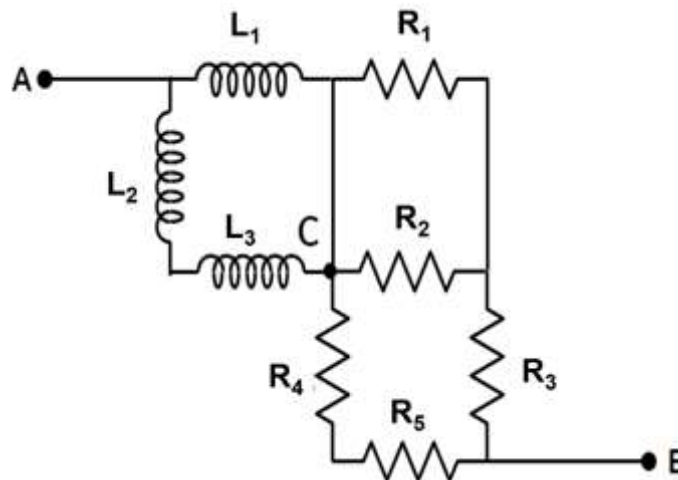
Question 2

Correct

Mark 2.00 out of

2.00

Determine the type and cut off frequency (in kHz) of the filter circuit shown below. Input signal is applied between nodes **A** and **B** and the output is observed between nodes **B** and **C**. Given $R_1=16\text{ k}\Omega$, $R_2=79\text{ k}\Omega$, $R_3=36\text{ k}\Omega$, $R_4=2\text{ k}\Omega$, $R_5=49\text{ k}\Omega$, $L_1=41\text{ mH}$, $L_2=24\text{ mH}$, $L_3=33\text{ mH}$.



Select one:

- ☒ Low pass filter, with cut off frequency 167.40 ✓
- ☐ Low pass filter, with cut off frequency 951.25
- ☐ High pass filter, with cut off frequency 951.25
- ☐ High pass filter, with cut off frequency 167.40

Your answer is correct.

The correct answer is: Low pass filter, with cut off frequency 167.40



Question 3

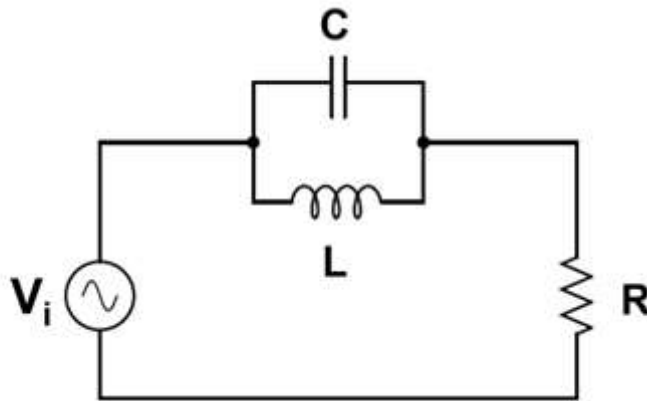
Correct

Mark 2.00 out of

2.00

The equivalent impedance (Ω) of the circuit shown in figure below in Cartesian form can be represented as, $Z_{eq} = a + jb$ where $j^2 = -1$. The input signal to the circuit is $V_i = V_m \sin \omega t$. Determine the values of a and b .

Given $V_m = 10.6$ V, $\omega = 1081$ radians/second, $R = 232 \Omega$, $C = 4 \mu\text{F}$, $L = 8$ mH.



Select one:

- ☒ $a=232.00$ and $b=8.98$ ✓
- ☐ $a=240.65$ and $b=8.98$
- ☐ $a=232.00$ and $b=280748288.01$
- ☐ $a=270250232.00$ and $b=280748288.01$

Your answer is correct.

The correct answer is: $a=232.00$ and $b=8.98$

