

Dashboard > Courses > School Of Engineering & Applied Sciences > B.Tech. > B.Tech. Cohort 2020-2024 > Semester-I Cohort 2020-24 > EECE105L-Odd 2020 > 13 November - 19 November > Mid Sem Exam

Started on	Saturday, 9 January 2021, 10:00 AM
State	Finished
Completed on	Saturday, 9 January 2021, 11:15 AM
Time taken	1 hour 15 mins
Grade	12.00 out of 15.00 (80%)

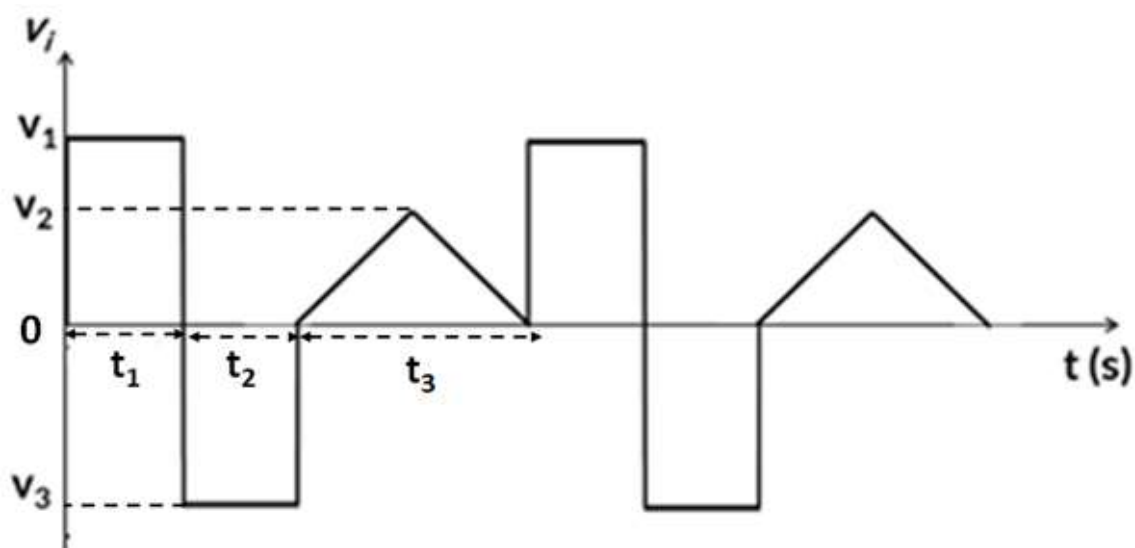
**Question 1**

Correct

Mark 2.00 out of

2.00

Calculate the average value (in Volt) over one cycle and peak amplitude (in Volt) for the waveform shown below. Given the magnitudes of voltages are  $v_1=9.6$  V,  $v_2=3.8$  V,  $v_3=2.7$  V,  $t_1=4.9$  s,  $t_2=2.9$  s and  $t_3=7.9$  s.



Select one:

- ☒ Average value is 3.45 and Peak Amplitude is 6.15 ✓
- ☐ Average value is 8.50 and Peak Amplitude is -60.28
- ☐ Average value is 3.45 and Peak Amplitude is 9.60
- ☐ Average value is 4.45 and Peak Amplitude is 6.15
- ☐ None of the given options
- ☐ Average value is 4.45 and Peak Amplitude is 9.60
- ☐ Average value is 0 and Peak Amplitude is 9.60
- ☐ Average value is 8.50 and Peak Amplitude is 5.15

Your answer is correct.

The correct answer is: Average value is 3.45 and Peak Amplitude is 6.15



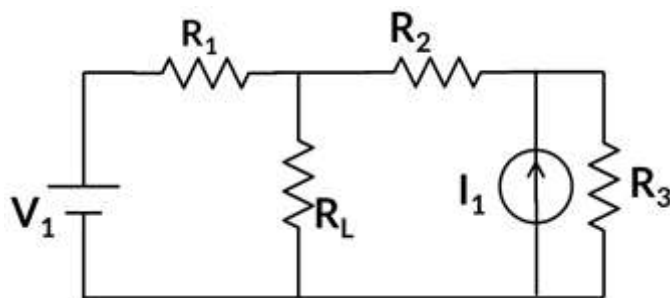
**Question 2**

Correct

Mark 2.00 out of

2.00

For the circuit shown in figure below, calculate the value of resistor  $R_1$  (in  $k\Omega$ ) such that the power delivered to the load resistor is maximized. Given  $R_2=8.3\ k\Omega$ ,  $R_3=6.2\ k\Omega$ ,  $R_L=2.2\ k\Omega$ ,  $V_1=7.0\ V$  and  $I_1=15.9\ mA$ .



Answer: 2.631



The correct answer is: 2.59

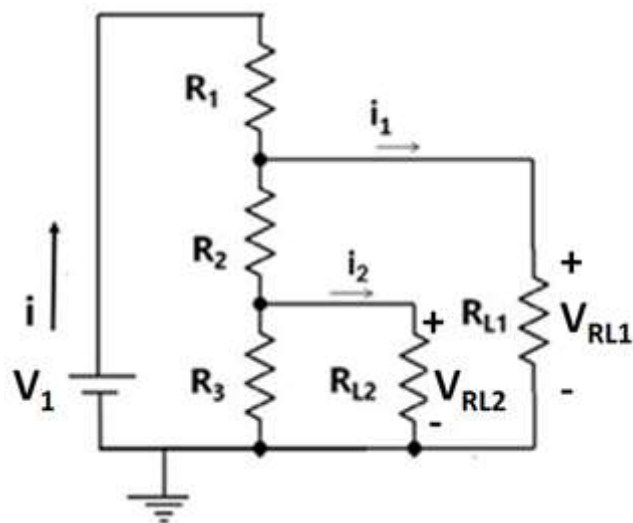
**Question 3**

Correct

Mark 2.00 out of

2.00

Determine the power absorbed (in Watt) by the resistor  $R_3$  in the circuit shown below. Given  $V_1=113\ V$ ,  $I=77.2\ mA$ ,  $I_1=12.8\ mA$ ,  $I_2=21.8\ mA$ ,  $V_{RL1}=78\ V$ ,  $V_{RL2}=51.0\ V$ .



Answer: 2.172



The correct answer is: 2.17



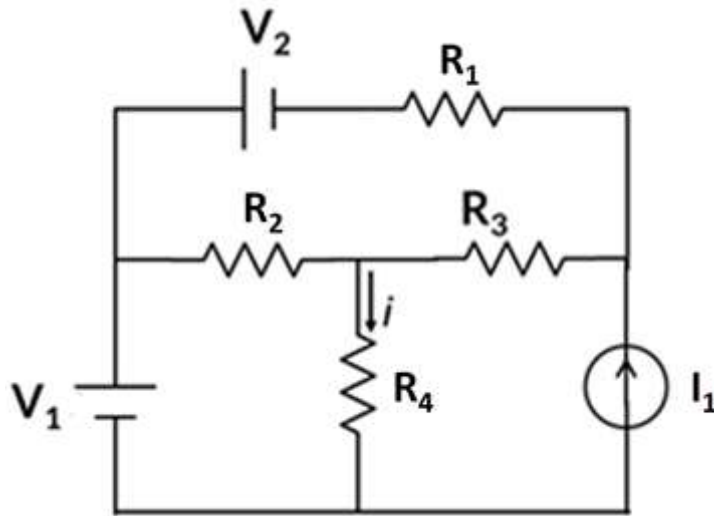
**Question 4**

Correct

Mark 4.00 out of

4.00

For the circuit given below which one of the following options is the correct while determining the current (in mA) through the resistor  $R_4$ . Given  $R_1=6.5\text{ k}\Omega$ ,  $R_2=7.9\text{ k}\Omega$ ,  $R_3=3.7\text{ k}\Omega$ ,  $R_4=5.9\text{ k}\Omega$ ,  $V_1=8.8\text{ V}$ ,  $V_2=5.1\text{ V}$ ,  $I_1=3.1\text{ mA}$ .



Select one:

- ☐ Current due to source  $I_1$  is 0.48 and Current due to all the sources -0.21
- ☐ None of the given options
- ☒ Current due to source  $I_1$  is 0.85 and Current due to all the sources 1.48 ✓
- ☐ Current due to source  $I_1$  is 0.85 and Current due to all the sources 0.21
- ☐ Current due to source  $I_1$  is 0.85 and Current due to all the sources -0.22
- ☐ Current due to source  $I_1$  is 0.48 and Current due to all the sources 0.22
- ☐ Current due to source  $I_1$  is 0.85 and Current due to all the sources 1.91
- ☐ Current due to source  $I_1$  is 0.48 and Current due to all the sources -1.91

Your answer is correct.

The correct answer is: Current due to source  $I_1$  is 0.85 and Current due to all the sources 1.48

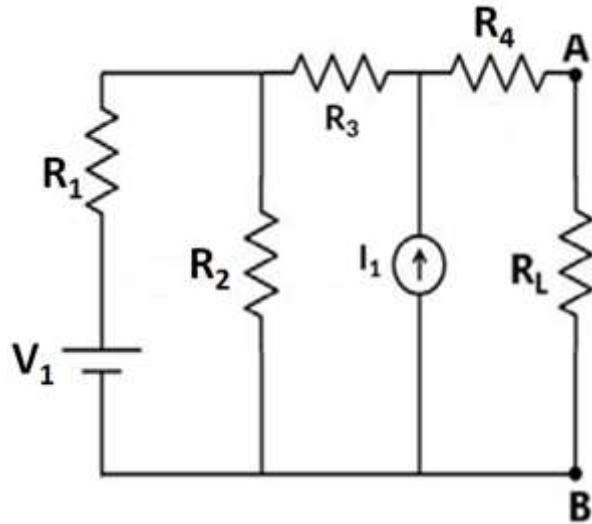
**Question 5**

Incorrect

Mark 0.00 out of

3.00

For the circuit given below, find the voltage (in Volt) across the load resistor  $R_L = 251 \, \Omega$ . Given  $R_1 = 94 \, \Omega$ ,  $R_2 = 148 \, \Omega$ ,  $R_3 = 166 \, \Omega$ ,  $R_4 = 73 \, \Omega$ ,  $V_1 = 8 \, \text{V}$  and  $I_1 = 0.47 \, \text{A}$ .



Answer: 109.9



The correct answer is: 50.40



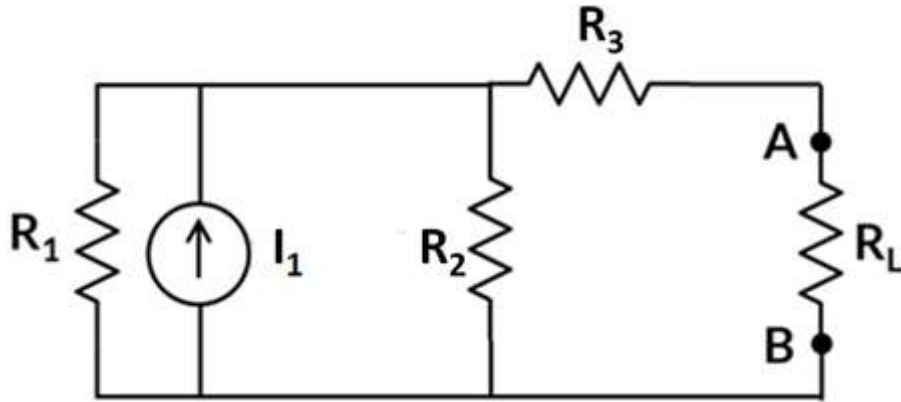
**Question 6**

Correct

Mark 2.00 out of

2.00

In the circuit shown below, find the Thevenin's equivalent resistance (in  $k\Omega$ ) and the current (in mA) through the load resistor ( $R_L$ ). Given  $R_1=2.1\text{ k}\Omega$ ,  $R_2=4.4\text{ k}\Omega$ ,  $R_3=4.0\text{ k}\Omega$ ,  $R_L=3.0\text{ k}\Omega$ ,  $I_1=121\text{ mA}$ .



Select one:

- ☐ Thevenin's equivalent resistance is  $5.42\text{ k}\Omega$  and current through the load resistor is  $58.26\text{ mA}$
- ☒ Thevenin's equivalent resistance is  $5.42\text{ k}\Omega$  and current through the load resistor is  $20.42\text{ mA}$  ✓
- ☐ Thevenin's equivalent resistance is  $5.78\text{ k}\Omega$  and current through the load resistor is  $62.74\text{ mA}$
- ☐ Thevenin's equivalent resistance is  $10.50\text{ k}\Omega$  and current through the load resistor is  $20.42\text{ mA}$
- ☐ Thevenin's equivalent resistance is  $4.20\text{ k}\Omega$  and current through the load resistor is  $58.26\text{ mA}$
- ☐ Thevenin's equivalent resistance is  $1.05\text{ k}\Omega$  and current through the load resistor is  $20.42\text{ mA}$
- ☐ None of the given options
- ☐ Thevenin's equivalent resistance is  $4.20\text{ k}\Omega$  and current through the load resistor is  $68.08\text{ mA}$

Your answer is correct.

The correct answer is: Thevenin's equivalent resistance is  $5.42\text{ k}\Omega$  and current through the load resistor is  $20.42\text{ mA}$

