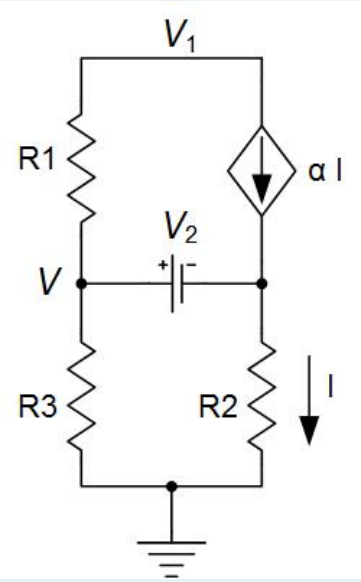
Started on	Monday, 18 July 2022, 9:34 PM
State	Finished
Completed on	Monday, 18 July 2022, 11:48 PM
Time taken	2 hours 14 mins
Grade	**9.0** out of 10.0 (**90**%)

Question **1**

Correct

Mark 1.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 6.1V, V2 = 1.0V, R1 = 11.7kΩ, R2 = 1.4kΩ, R3 = 12.0kΩ and α = 0.81.

Answer: 2.16 ✔

The correct answer is: 2.16

Correct

Marks for this submission: 1.0/1.0.

Question **2**

Correct

Mark 1.0 out of 1.0

If a 17.7pF capacitor is connected in parallel with a 18.4pF capacitor and a 39.4pF capacitor, then what is the total capacitance of this parallel combination in pico Farads?

Answer: 75.5 ✔

The correct answer is: 75.50

Correct

Marks for this submission: 1.0/1.0.

Question **3**

Correct

Mark 1.0 out of 1.0

If a 1.1kΩ resistor has 3.7 volts across it, then what is the value of the current flowing through this resistor in milliamps?

Answer: 3.36 ✔

The correct answer is: 3.36

Correct

Marks for this submission: 1.0/1.0.

Question **4**

Correct

Mark 1.0 out of 1.0

If a 27.5pF capacitor, a 29.2pF capacitor and a 38.7pF capacitor are all connected in series, then what is the total capacitance of this series combination in pico Farads?

Answer: 10.37 ✔

The correct answer is: 10.37

Correct

Marks for this submission: 1.0/1.0.

Question **5**

Correct

Mark 1.0 out of 1.0

The energy stored by a resistor is given by :

Select one:

- a. None of the these ✔
- b. R*I*I/2
- c. R*V*V/2
- d. R*V/I
- e. R*V*I

The correct answer is: None of the these

Correct

Marks for this submission: 1.0/1.0.

Question **6**

Correct

Mark 1.0 out of 1.0

If a circuit has 3 nodes and 2 loops in it, then :

Select one:

- a. Both Nodal and Mesh analysis will require solving the same number of equations
- b. Mesh analysis will require solving more equations than Nodal analysis
- c. None of these
- d. It is impossible to determine which method will require solving more equations
- e. Nodal analysis will require solving more equations than Mesh analysis ✔

The correct answer is: Nodal analysis will require solving more equations than Mesh analysis

Correct

Marks for this submission: 1.0/1.0.

Question **7**

Correct

Mark 1.0 out of 1.0

Inductors in parallel can be combined to find the total equivalent inductance by :

Select one:

- a. Multiplying the inductances together
- b. Adding the inductances together
- c. None of the these
- d. Taking the reciprocal of the sum of the reciprocals of each inductance ✔
- e. Adding the reciprocal of each inductance together

The correct answer is: Taking the reciprocal of the sum of the reciprocals of each inductance

Correct

Marks for this submission: 1.0/1.0.

Question **8**

Correct

Mark 1.0 out of 1.0

Nodal analysis is easier to perform than Mesh analysis for circuits that have fewer loops than nodes.

Select one:

- True
- False ✔

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question **9**

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is equal to the Norton's equivalent current divided by the Norton's equivalent resistance for the same circuit.

Select one:

- True
- False ✔

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question **10**

Correct

Mark 0.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is found by measuring the output voltage of the circuit while the output is short circuited.

Select one:

- True
- False ✔

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

◄ Example 1.2 on Power dissipation and efficiency

Jump to...

Quiz 1b - Signals and Amplifiers ►