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|---|---|
| **Started on** | Monday, 18 July 2022, 8:47 PM |
| **State** | Finished |
| **Completed on** | Monday, 18 July 2022, 9:33 PM |
| **Time taken** | 46 mins 3 secs |
| **Grade** | **6.5** out of 10.0 (**65**%) |

Question **1**

Correct

Mark 1.0 out of 1.0

If a 45.0pF capacitor, a 29.8pF capacitor and a 10.6pF capacitor are all connected in series, then what is the total capacitance of this series combination in pico Farads?

Answer: 6.66 ✔

The correct answer is: 6.66

**Correct**

Marks for this submission: 1.0/1.0.

Question **2**

Correct

Mark 1.0 out of 1.0

If a 1.4kΩ resistor has 3.02mA flowing through it, then what is the value of the power dissipated by this resistor in milliwatts?

Answer: 12.77 ✔

The correct answer is: 12.77

**Correct**

Marks for this submission: 1.0/1.0.

Question **3**

Correct

Mark 1.0 out of 1.0

As the current through an ideal voltage source varies :

Select one:

- a. The voltage across the source increases as the current through it increases
- b. The voltage across the source decreases as the current through it decreases
- c. None of these ✔
- d. All of these
- e. The voltage across the source increases as the current through it decreases

The correct answer is: None of these

**Correct**

Marks for this submission: 1.0/1.0.

Question **4**

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements is the voltage across the element proportional to the integral of the current flowing through it? (Assume that the initial voltage = 0 before the current starts to flow.)

Select one:

- a. Resistors
- b. Capacitors ✔
- c. None of these
- d. Inductors
- e. All of these

The correct answer is: Capacitors

**Correct**

Marks for this submission: 1.0/1.0.

Question **5**

Correct

Mark 0.0 out of 1.0

For which of the following circuit elements is the current flowing through the element proportional to the derivative of the voltage across it? (Assume that the initial current = 0 before the voltage is applied.)

Select one:

- a. All of these
- b. None of these
- c. Inductors
- d. Resistors
- e. Capacitors ✔

The correct answer is: Capacitors

**Correct**

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

Question **6**

Correct

Mark 1.0 out of 1.0

Inductors in parallel can be combined to find the total equivalent inductance by taking the reciprocal of the sum of the reciprocals of each inductance.

Select one:

- True ✔
- False

The correct answer is 'True'.

**Correct**

Marks for this submission: 1.0/1.0.

Question **7**

Correct

Mark 0.0 out of 1.0

If a current source is applied to two resistors in parallel, the one with the higher resistance will have a larger voltage across it than the other resistor.

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**.

Question **8**

Correct

Mark 0.0 out of 1.0

The voltage across a capacitor is equal to the value of the charge stored on it multiplied by the capacitance.

Select one:

- True
- False ✔

The correct answer is 'False'.

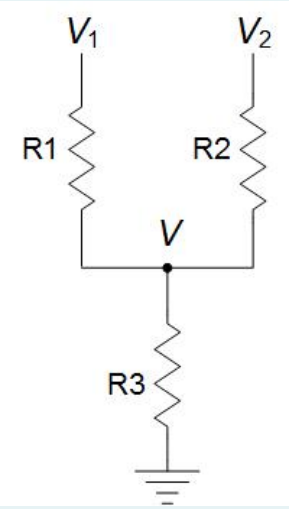
**Correct**

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

Question **9**

Correct

Mark 1.0 out of 1.0




For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 15.4V, V2 = 6.8V, R1 = 11.1kΩ, R2 = 8.1kΩ, and R3 = 8.1kΩ.

Answer: 6.61 ✔

The correct answer is: 6.61

**Correct**

Marks for this submission: 1.0/1.0.

Question **10**

Correct

Mark 0.5 out of 1.0

If a 39.1pF capacitor is connected in series with a 44.5pF capacitor, then what is the total capacitance of this series combination in pico Farads?

Answer: 20.81 ✔

The correct answer is: 20.81

**Correct**

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

◄ List of Calculators allowed on exams

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Practice Quiz 1b - Signals and Amplifiers ►