Score released: Quiz 1 - 2020012 | Quiz 1

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✓ What is the wavelength of 50 Hz electrical signal? 1/1

- ○ 600 Km
- ◉ 6000 Km ✓
- ○ 6000 m
- ○ 600 m

✓ When are you operating a cell phone, what kind of circuit are you handling? (Assume that cell phone operates at a frequency 1.9GHz) 1/1

- ○ Lumped
- ◉ Distributed ✓
- ○ All of the above
- ○ None of the above

✓ Find out the resistance R (All resistances are in ohm). 1/1

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Score released: Quiz 1 - 2020012 | Quiz 1

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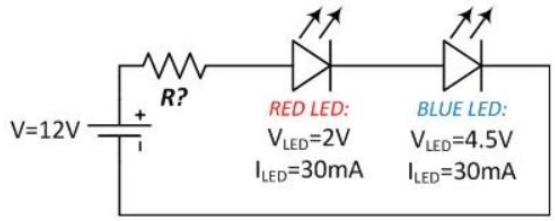
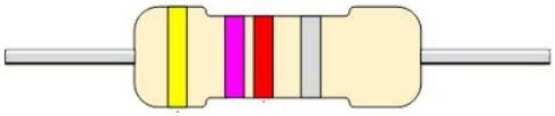
✓ Find out the resistance R (All resistances are in ohm). 1/1



- 250
- 200
- 333.33
- 183.33 ✓

✓ Find out the value of the resistance (in Ohm) from the figure. 1/1



- 4700 ✓

Type here to search

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- (●) 4700 ✓
- ( ) 5000
- ( ) 4.7
- ( ) 5

✗ CRO can be used to 0/1

- ( ) Do all of the above
- (●) Measure the frequency of the signal ✗
- ( ) Compare the phases and frequencies of signals
- ( ) Determine the amplitude of the signal

Correct answer

- (●) Do all of the above

✓ 1/1

How long can a 12V battery supply 300A to a starter motor if the battery has 3.6×10^6 J of chemical energy that can be converted to electric energy?

- (●) 1000 seconds ✓
- ( ) 5000 seconds
- ( ) 500 seconds
- ( ) 100 seconds

✓ Check whether the following system is linear. y(t) = 2x(t)+3 1/1

- ( ) Linear
- (●) Non-linear ✓

✓ Find out the expression of the following plot in terms of unit step functions 2/2

Score released: Quiz 2 - 2020012 | Quiz 2

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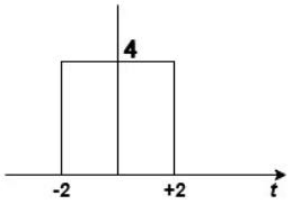
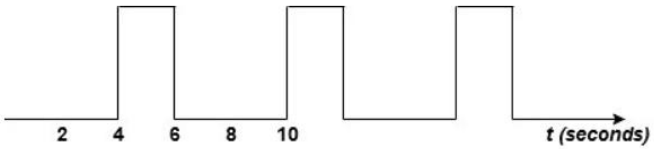
✓ Find out the expression of the following plot in terms of unit step functions 2/2



- 4u(t+2)+4u(t-2)
- 4u(t+2)
- 4u(t-2)
- ◉ 4u(t+2)-4u(t-2) ✓

✓ Findout the duty cycle of the following square wave. 1/1



- 75%
- 50%

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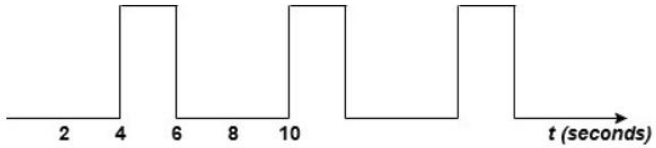
4u(t+2)+4u(t-2)

4u(t+2)

4u(t-2)

✓ 4u(t+2)-4u(t-2)

✓ Findout the duty cycle of the following square wave. 1/1



75%

50%

25%

✓ 33%

Score released: Quiz 3 - 2020012 | Quiz 3

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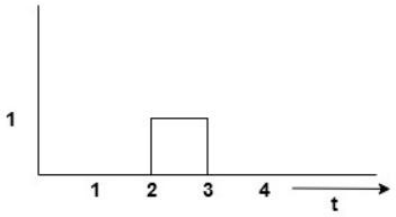
✓ The electron beam in a TV picture tube carries 10^15 electrons per second. As a design engineer, determine the voltage needed to accelerate the electron beam to achieve 4 W. 1/1

- (●) 25 kV ✓
- ( ) 25 V
- ( ) 16 V
- ( ) 4.6 kV

✓ Find out the expression in terms of unit step function.s 2/2



- ( ) u(t-2)+0.5u(t-3)
- ( ) 0.5u(t-2)-u(t-3)
- (●) u(t-2)-u(t-3) ✓
- ( ) 0.5u(t-2)+0.5u(t-3)

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docs.google.com/forms/d/e/1FAIpQLScKbQ-cede6YfIJ8Hgab9c5JYI5goNNr8ejGOaqnGT0DBUf3w/viewscore?sid=2a6ae8652aaddc69&vc=0&c=0&w=1&flr=0&token=qrRqHnYBAAA.nTADUAeLlS...

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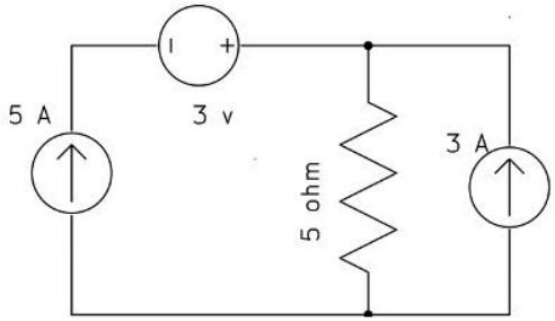
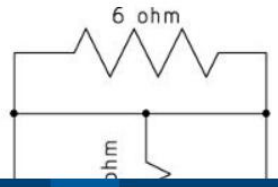
✓ Find out the current that flows through the voltage source. 1/1



- 8 A
- 2 A
- (●) 5 A ✓
- 3 A

✗ Find the voltage across the current source. ···/1



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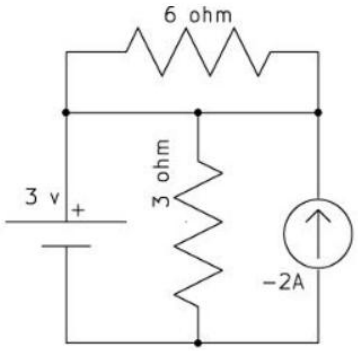
✗ Find the voltage across the current source. ···/1



2 ✗

Correct answers

3 v

3v

3 V

3V

3 volts

3 volt

3 Volts

3 Volt

Three volts

threevolts

Type here to search

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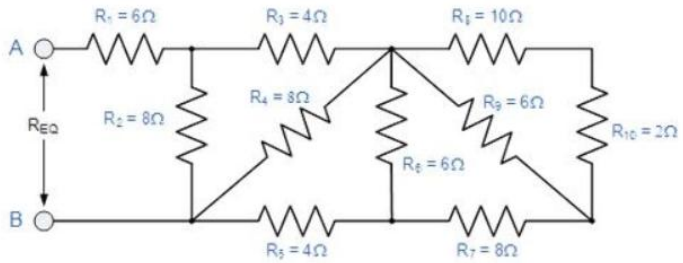
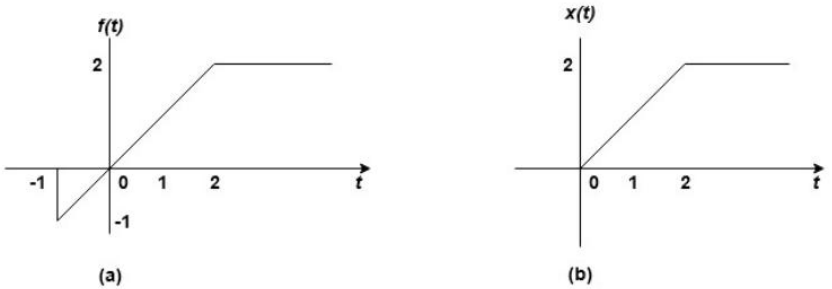
✓ Find the equivalent resistance. 2/2



10 ohm ✓

✓ Find the expression of x(t) (Fig.b) in terms of f(t) (Fig.a) 2/2



◉ f(t)u(t) ✓

Score released: Quiz 4 - 2020012 | Quiz 4

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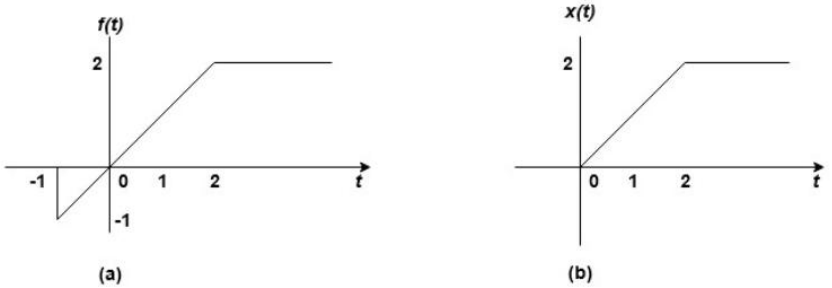
✓ Find the expression of x(t) (Fig.b) in terms of f(t) (Fig.a) 2/2



- (●) f(t)u(t) ✓
- ( ) f(t-1)u(t-1)
- ( ) f(t-1)u(t)
- ( ) f(t)u(t-1)

✗ Find out the expression of f(t) in terms of unit ramp function. ···/2

Type here to search

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f(t-1)u(t)

f(t)u(t-1)

✗ Find out the expression of f(t) in terms of unit ramp function. ···/2

4u(t+1)+4u(1-t) ✗

Correct answers

f(t) = 4r(t+1)-8r(t)+4r(t-1)

4r(t+1)-8r(t)+4r(t-1)

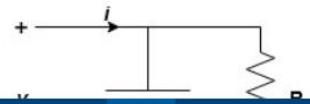
✓ Find the resistance (in Ohm) of an aluminum wire that has a length of 1000m and a diameter of 1.626 mm. Assume the resistivity of the wire at 20-degree Celsius is 2.83 x 10^(-8) Ohm-m. 1/1

- 2.83 x 10^(-5)
- 1.36 x 10^3
- (●) 136 x 10^(-1) ✓
- 2.83 x 10^3

✓ A nonlinear resistor has a voltage-current relation of v = 3 i^2 +4. What power does it absorb when energized by 61 V? 2/2

266 W ✓

✓ The circuit behaves like a filter that filter-out the ripples in the current. For good filtering, the capacitor should able to store energy that is 10 times the energy dissipated by R during 1 cycle. Consider R = 10K, Ripples has frequency 60 Hz. What is the value of C? 2/2



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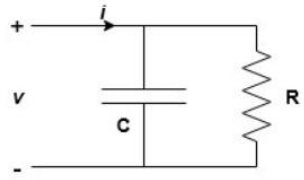
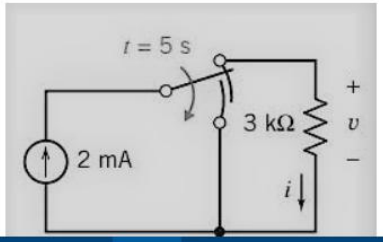


- (●) 33.3 uF ✓
- ( ) 33.3 mF
- ( ) 33 mF
- ( ) 33 uF

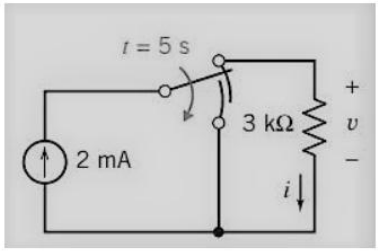
✓ What is the value of the voltage v at time t = 6 s? 1/1



33 mF

33 uF

✓ What is the value of the voltage v at time t = 6 s? 1/1



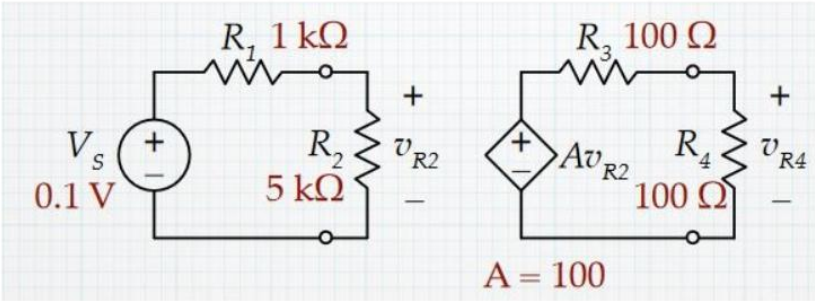
30 V

6 V

0 V ✓

60 V

✓ Find the voltage v_R4 in volt. (No need to write the unit in the answer -- If you write it system shall give 0 mark) 3/3

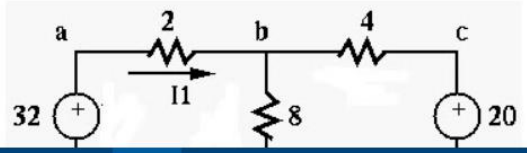


4.2 ✗

Correct answer

4.17

✓ Considering all the units of resistances are in "Ohm", find the current I1 (i.e., the current that flows through the ab branch) from the figure below in Amperes. (No need to write the unit in the answer -- If you write it system shall give 0 marks) 3/3



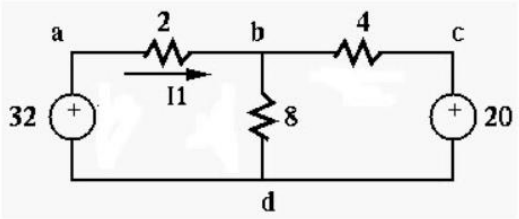
$A = 100$

4.2 ✗

Correct answer

4.17

✓ Considering all the units of resistances are in "Ohm", find the current I1 (i.e., the current that flows through the ab branch) from the figure below in Amperes. (No need to write the unit in the answer -- If you write it system shall give 0 marks) 3/3



4 ✓

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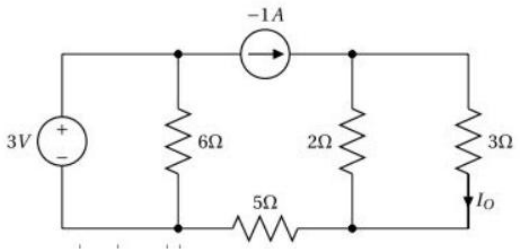
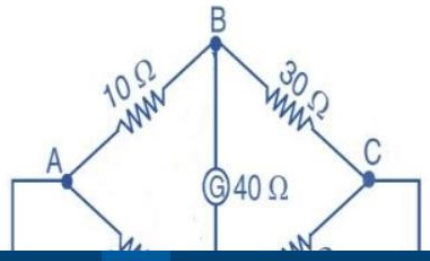
✓ Use Thevenin's theorem to find Io. 3/3

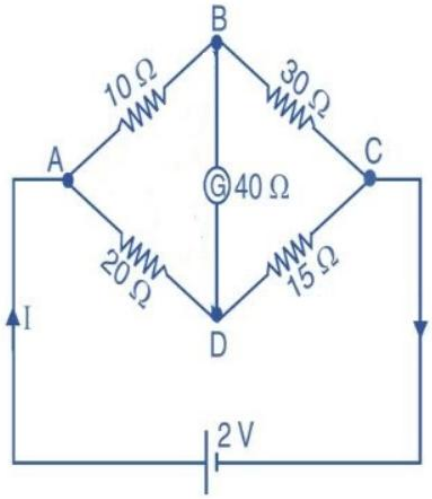


- ○ -0.33A
- ○ 0.33 A
- ○ 0.4 A
- ◉ -0.4 A ✓

✗ Find the equivalent resistance (in Ohm) across AC. 0/3



✗ Find the equivalent resistance (in Ohm) across AC. 0/3

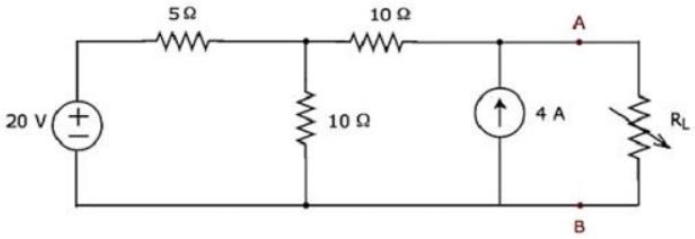


- ○ 18.04
- ◉ 18.67 ✗
- ○ 35
- ○ 40

Correct answer

- ◉ 18.04

✗ Find the maximum power that can be delivered to the load resistor R_L of the circuit. 0/2

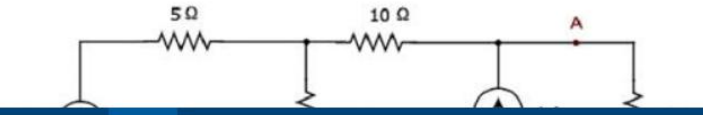


- (●) 40 W ✗
- ( ) 40/3 W
- ( ) 250/3 W
- ( ) 200 W

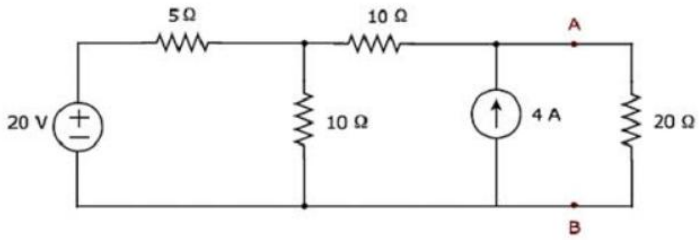
Correct answer

- (●) 250/3 W

✓ Find out the current that flows through the 20 Ohm resistor 2/2

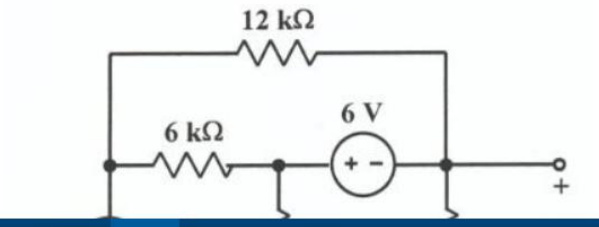


✓ Find out the current that flows through the 20 Ohm resistor 2/2

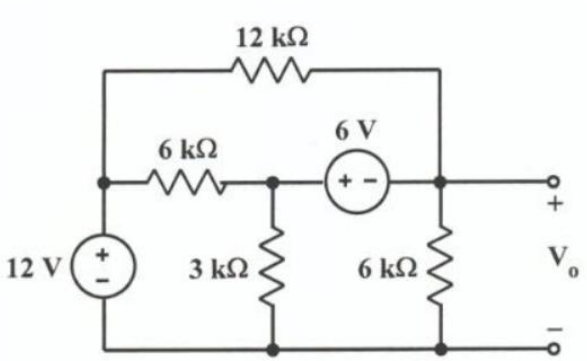


- ○ 1 A
- ○ 4 A
- ○ 3 A
- ◉ 2 A ✓

✓ Find V_0. 2/2



✓ Find V_0. 2/2



- ○ 6 V
- ◉ 0 V ✓
- ○ 3 V
- ○ 2 V

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