

Unit 03: Electrical Circuits and Data Acquisition

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1. Unit 03: Electrical Circuits and Data Acquisition

4. Chapter: Unit 03: Electrical Circuits and Data Acquisition

1. Unit 03: Electrical Circuits and Data Acquisition Questions

4.1.1. A 12 bit ADC may have _____ unique output conditions.

Author: Steve Gibbs

A 12 bit ADC may have _____ unique output conditions.

Please choose only one answer:

- 2^{11}
- 2^{10}
- 12^2
- 12^{10}
- 2^{12}

Check the answer of this question online at QuizOver.com:

Question: [A 12 bit ADC may have unique output conditions Steve @The Saylor](#)

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4.1.2. A 6dB attenuator and a 50dB attenuator in series provide a total at...

Author: Steve Gibbs

A 6dB attenuator and a 50dB attenuator in series provide a total attenuation of

Please choose only one answer:

- 300dB
- 56dB
- 5.4dB
- 50dB
- None except this

Check the answer of this question online at QuizOver.com:

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4.1.3. A current source _____

Author: Steve Gibbs

A current source _____

Please choose only one answer:

- Can supply an infinite current upon demand.
- Supplies a constant current regardless of voltage within practical limits
- Is the source in use at the present
- Can supply AC or DC upon demand
- Supplies current varying linearly with the output voltage

Check the answer of this question online at QuizOver.com:

Question: [A current source Steve Gibbs @The Saylor Foundat Measurement Quest](#)

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4.1.4. A digital signal _____

Author: Steve Gibbs

A digital signal _____

Please choose only one answer:

- Is represented by numbers ranging from 1 to 10
- Corresponds to the output of digital-to-analog converter
- Is represented by 10 bits of data
- Takes on discrete values over a range
- None of the above

Check the answer of this question online at QuizOver.com:

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4.1.5. A signal (in the context of this course) is_____

Author: Steve Gibbs

A signal (in the context of this course) is_____

Please choose only one answer:

- An indication to start or stop an activity
- An unexpected event
- An electrical current
- A detectable quantity used to communicate information
- None except this

Check the answer of this question online at QuizOver.com:

Question: [A signal in the context of this course is Steve Gibbs Saylor Foundat](#)

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4.1.6. A simple way to filter out low frequencies is to place _____

Author: Steve Gibbs

A simple way to filter out low frequencies is to place _____

Please choose only one answer:

- An inductor in series with the load
- A capacitor in parallel with the load
- A capacitor in series with the load
- A rapid switch in series with the load
- None except this

Check the answer of this question online at QuizOver.com:

Question: [A simple way to filter out low frequencies Steve Gibbs @The Saylor](#)

Flashcards:

<http://www.quizover.com/flashcards/a-simple-way-to-filter-out-low-frequencies-steve-gibbs-the-saylor?pdf=3044>

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4.1.7. AC amplitude may be measured by_____

Author: Steve Gibbs

AC amplitude may be measured by_____

Please choose only one answer:

- Frequency
- Period
- Frequency and period
- Duration
- Peak-to-peak, RMS, or average amplitude

Check the answer of this question online at QuizOver.com:

Question: [AC amplitude may be measured by Steve Gibbs @The Saylor Foundat Measurement](#)

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4.1.8. Aliasing in signal digitization occurs when_____

Author: Steve Gibbs

Aliasing in signal digitization occurs when_____

Please choose only one answer:

- A signal is digitized too rapidly
- A signal is not digitized rapidly enough
- A signal is not digitized with enough amplitude resolution
- A connection is mislabeled
- All including this

Check the answer of this question online at QuizOver.com:

Question: [Aliasing in signal digitization occurs when Steve Gibbs @The Saylor](#)

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4.1.9. Alternating current _____

Author: Steve Gibbs

Alternating current _____

Please choose only one answer:

- Oscillates at 60 Hz
- Changes amplitude with time
- Is always positive
- Decays with time
- None except this

Check the answer of this question online at QuizOver.com:

Question: [Alternating current Steve Gibbs @The Saylor Foundat Measurement Quest](#)

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4.1.10. A filter is an AC circuit that separates signals based upon _____

Author: Steve Gibbs

A filter is an AC circuit that separates signals based upon _____

Please choose only one answer:

- Amplitude
- Voltage
- Frequency
- Time
- Duration

Check the answer of this question online at QuizOver.com:

Question: [A filter is an AC circuit that separates Steve Gibbs @The Saylor](#)

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4.1.11. A power gain of 30 dB corresponds to a factor of _____

Author: Steve Gibbs

A power gain of 30 dB corresponds to a factor of _____

Please choose only one answer:

- 10
- 30
- 100
- 1000
- 3000

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [A power gain of 30 dB corresponds to a factor Steve Gibbs @The Measurement](#)

Flashcards:

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4.1.12. A low-pass filter permits the passage of

Author: Steve Gibbs

A low-pass filter permits the passage of

Please choose only one answer:

- Low frequency signals
- Small voltages
- Small currents
- DC signals
- All including this

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [A low-pass filter permits the passage Steve Gibbs Saylor Foundat](#)

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4.1.13. The nomenclature "live zero" indicates _____

Author: Steve Gibbs

The nomenclature "live zero" indicates _____

Please choose only one answer:

- A drifting baseline
- A fluctuating digital readout
- A non-zero rest state for an analog signal
- A faulty digital readout
- None except this

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [The nomenclature live zero indicates Steve Gibbs Saylor Foundat Measurement](http://www.quizover.com/question/the-nomenclature-live-zero-indicates-steve-gibbs-saylor-foundat-measur?pdf=3044)

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4.1.14. Three resistors (R_1 , R_2 , R_3) in se...

Author: Steve Gibbs

Three resistors (R_1 , R_2 , R_3) in series present a total resistance of _____

Please choose only one answer:

- $R_1 + R_2 + R_3$
- $1/R_1 + 1/R_2 + 1/R_3$
- $R_1 \times R_2 \times R_3 / (R_1 + R_2 + R_3)$
- $R_1/R_2 + R_2/R_3 + R_3/R_1$
- None except this

Check the answer of this question online at QuizOver.com:

Question: [Three resistors \$R_1\$, \$R_2\$, \$R_3\$ Steve Gibbs @The Saylor](#)

Flashcards:

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4.1.15. An analog signal _____.

Author: Steve Gibbs

An analog signal _____.

Please choose only one answer:

- Is continuously variable over a range
- Takes on a finite number of discrete values
- Is measured in units of electrical current or flow rate
- Is measured by voltage
- Is determined continuously in time

Check the answer of this question online at QuizOver.com:

Question: [An analog signal . Steve Gibbs @The Saylor Foundat Measurement Quest](#)

Flashcards:

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