Electrical Review – Quiz Questions

This is an Illustrated Course.

1. Download Quizzes – Open – Print.

2. Login to your account using your ID and password.

3. Start viewing the course, one web page at a time.

4. The answers to the quiz questions are found on the course web pages.

5: Circle the correct answers on your printed copy of the quizzes as you study the course web pages.

Quiz questions track the web pages as you view them.

6. Refer to your printed quizzes to find the correct answers to each of the on-line quiz questions.

You will notice that the questions are exactly the same as your printed ones
This is just like an open book test.

Quiz 1

Question 1: An electron has a _____ charge.
- Positive
- Negative
- Neutral

Question 2: In a stable atom, the number of positively charged particles is _____ to the number of negatively charged particles.
- Equal
- Greater than
- Less than

Question 3: The positively charged particle of an element is a(n):
- Atom
- Electron
- Proton
- Neutron
- None of these

Question 4: The center of the atom, the nucleus, is made up of the following
- A. Electrons
- B. Protons
- C. Neutrons
- D. All of the above
- E. Only B and C

Question 5: The electrons in the outer shell are know as
- Valance electrons
- Outer orbit electrons
- M3 level electrons
- None of the above

Question 6: Materials that easily move electrons are:
- atoms
- conductors
- insulators
- resistors
- all of the above

Question 7: Atoms that have received an extra electron are known as_____.
- Depleted atoms
- Charged atoms
- Overcharged atoms
- Full atoms

Question 8: If a positive and negative body are joined together by a copper wire, the following would happen.
An atomic explosion
Nothing
Electrons would move in the wire from the negative charged body to positive charged body
Electrons would move in a wire from the positive charged body to the negative charged body

Question 9: As the number of electrons in the outer orbit increases, the atoms change in behavior from a _____ to a _____.
Conductor / insulator
Insulator/ conductor
No change either case

Question 10: Which of the following is NOT an insulator.
Electrical tape
Copper wire
Plastic
Dry wood
Dry leather

Question 11: Corrosion on terminal is not desired because it _____
Acts as an insulator and creates heat at the terminal.
Discolors the wire's insulation
Makes a system look old
Allows too much electricity to flow.

Question 12: Like charges _____.
repel
attract
have no effect on each other
none of the above

Question 13: Which ways can electricity be produced.
Chemical - batteries
Thermal
Photo-electric
Magnetically – mechanically generated
All of the above

Question 14: A dry cell has the following part(s).
1 single metal
2 metals
2 metals and a paste
none of the above

Question 15: The ANODE in a battery is
Positively charged
Negatively charged
Neutrally charged

Question 16: The CATHODE in a battery is
Positively charged
Negatively charged
Neutrally charged

Question 17: A typical material used in a Cathode would be
Carbon black and manganese dioxide
Charcoal and dioxins paste
Rubber and silicon paste

Question 18: An alkaline battery would use _____ as a base.
Alklinous.
Sulfuric acid
Formic acid
Potassium hydroxide

Question 19: The metal _____ is normally used for an anode.
Iron
Steel
Silver
zinc

Question 20: Dry cells can be recharged.
True
False

Question 21: A wet cell uses _____ instead of a paste between the 2 plates.
Solid
Liquid
Gas
Electromagnetic sponge material

Question 22: The electrolyte in a wet cell is typically
Water
Formic acid
Sulfuric acid
Potassium hydroxide

Question 23: Which of the above symbols represents negative electrons or a cathode
1
2
3
4
5

Question 24: Which of the above symbols represents a positive proton or Anode.
1
2
3
4
5

Question 25: Which of the above symbols represents a battery or direct current.
1
2
3
4
5

Question 26: Magnets are surrounded with lines of force that are called flux.
True
False

Question 27: Two positive magnetic poles attract each other.
True
False

Question 28: The Right Hand rule for electricity states that you put your right hand on the wire with your thumb in the direction of flow, your fingers show the direction of the magnetic flux.
True
False

Question 29: As the current increases in a wire,
The strength of the magnetic field increases
The strength of the magnetic field decreases
The strength of the magnetic field does not change
The strength of the magnetic field is not influenced by current flow.

Question 30: If an iron bar is wrapped with a wire and electricity is flowing through the wire, the iron bar acts like a magnet.
True
False

Question 31: Reversing the direction of electrical flow in an electromagnet DOES NOT reverse the N S poles of the electromagnet.
True
False

Question 32: A coil of wires wrapped around a metal plunger is called a
Haploid
Diploid
Semiotic
Solenoid

Question 33: When a coil of wires wrapped around a metal plunger is energized, the coil of wires acts like a
Magnet
Resistance heater
RF coil
None of the above

Question 34: When a wire is moved through a magnetic field, electricity flows in the wire.
True
False

Question 35: The flow of AC electricity changes direction during a cycle.
True
False

Question 36: In generating electricity, an armature coil is needed. The armature coil is
A rotating loop of wire
A stationary loop of wire
A rotating magnet
A stationary magnet

Question 37: The maximum voltage generated is found at _____ degrees in the position of the armature vs. the magnetic poles.
Zero
45
66
90
180

Question 38: Voltage measured in a home is about 70% of the peak voltage that is generated.
True
False

Quiz 2:

Question 1: Which of the following is not a basic part of an electric circuit?
Fuse
Source of Power
Load
Switch
Conductors

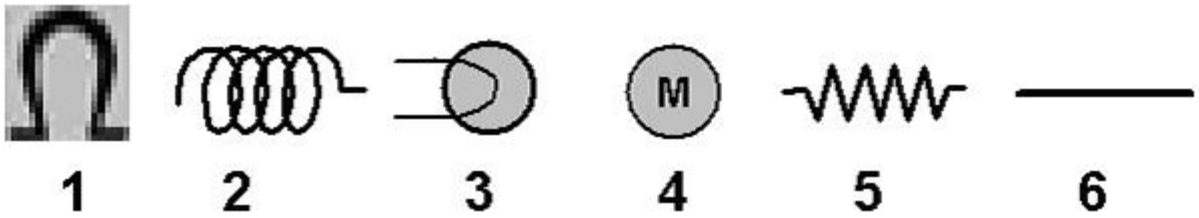
Question 2: Electricity can be understood by comparing electricity with an hydraulic system. Amps are similar to:
pressure in psig.
flow in gpm.
pressure loss.
a control valve

Question 3: Electricity can be understood by comparing electricity with an hydraulic system. Ohms in the system are similar to:
pressure in psig.
flow in gpm.
pressure loss.
a control valve.

Question 4: Electricity can be understood by comparing electricity with an hydraulic system. Power voltage is similar to:
pressure in psig.
flow in gpm.
pressure loss.
a control valve.

Question 5: Electricity can be understood by comparing electricity with an hydraulic system. Electrical switch is similar to:
pressure in psig.
flow in gpm.
pressure loss.
a control valve.

Question 6: The units used to measure resistance are _____.
ohms
volts
amps



Question 7: Which of these symbols represents OHMS
1
2
3
4
5

Question 8: Which of these symbols represents a MOTOR
1
2
3
4
5

Question 9: Which of these symbols represents a RESISTANCE HEATER
1
2
3
4
5

Question 10: Which of these symbols represents a LIGHT?
1
2
3
4
5

Question 11: Which of these symbols represents a SOLENOID COIL
1
2
3
4
5

Question 12: Which of these symbols represents an ELECTRICAL LINE
2
3
4
5
6

Question 13: Which wire is the largest in diameter?
8 gauge
10 gauge
12 gauge
16 gauge
20 gauge

Question 14: By increasing the diameter of a wire, more electrons, increased amps, can flow without the build up of heat.
True
False

Question 15: Which table should be used to determine the Ampacities that a wire can safely carry?
103
130
210
310
315

Question 16: This table is found in the following text.
2005 NEC
2006 UPC
2006 IBC
WAC Chapter 54

Question 17: When selecting a wire size and finding that the amp load is between 2 sizes of wire, the electrician should always select
The smaller size since it is cheaper
The smaller size since it is easier to handle
The smaller size since it weighs less
The larger size, since it is required by code.

Question 18: NEC 310.16 Electrical tables, indicate that a 12-gauge wire should be able to carry 25 amps. Field practice limits the amperage to _____ amps.
30
25
20
15

Question 19: Using the wire-sizing table shown on page 63 of the internet course, what size wire should be selected for 35 amps if no de-rating factors are applied?
6
8
10
12

Question 20: Using the wire-sizing table shown on page 63 of the internet course, what size wire should be selected for 30 amps if no de-rating factors are applied?
12
10
8
6

Question 21: Using the wire-sizing table shown on page 63 of the internet course, what size wire should be selected for 50 amps if no de-rating factors are applied?
12
10
8
6

Question 22: Using the wire-sizing table shown on page 63 of the internet course e, what size wire should be selected for 45 amps if no de-rating factors are applied?
12
10
8
6

Question 23: Using the wire-sizing table shown on page 63 of the internet course, what size wire should be selected for 28 amps if no de-rating factors are applied?
12
10
8
6

Question 24: As more wires are bundled together, the heat generated by the wires cannot be dissipated. The wires can carry _____ than the original design ampere load.
More
Less
The same

Question 25: Using Table 310.15.B at the end this study guide or the table on page 77 of the course, what is the adjustment factor ____ % for 5 current carrying wires in a bundle?
100
80
70
50
40

Question 26: Using Table 310.15.B at the end this study guide or the table on page 77 of the course, what is the adjustment factors ____ % for 15 current carrying wires in a bundle?
100
80
70
50
40

Question 27: Using Table 310.15.B at the end this study guide or the table on page 77 of the course, what is the adjustment factors ____ % for 3 current carrying wires in a bundle?
100
80
70
50
40

Question 28: By definition, a continuous load is _____ hours or more of continuous operation.
1
2
3
6
24

Question 29: In sizing conductor wires, a load must be multiplied by _____ % if it is found to be a continuous load.
100
125
150
175
200

Question 30: Wire is in an ambient location of 85 deg F. What is the temperature adjustment factor? (See Table 310.16.DE-RATEING for Ambient Temps found at the end of this guide, 140 F column)
1.08
1.00
0.91
0.82
0.71

Question 31: Wire is in an ambient location of 110 deg F. What is the temperature adjustment factor. (See Table 310.16.DE-RATEING for Ambient Temps found at the end of this guide, 140 F column)
1.08
1.00
0.91
0.82
0.71

Question 32: Wire is in an ambient location of 125 deg F. What is the temperature adjustment factor. . (See Table 310.16.DE-RATEING for Ambient Temps found at the end of this guide, 140 F column)
0.91
0.82
0.71
0.58
0.41

Question 33: What is the minimum sized wire for 20 amp load for the following conditions. Continuous load, 5 wires in the bundle, 110deg F.(Refer to Table 310.15.B & 310.16 at the end of the study guide)
6 ga
8 ga
10 ga
12 ga
14 ga

Question 34: What is the minimum sized wire for 30 amp load for the following conditions. NON-Continuous load, 7 wires in the bundle, 120deg F.(Refer to Tables 310.15.B & 310.16 at the end of the study guide)
1/0
3 ga
4 ga
6 ga
8 ga

Question 35: What is the minimum sized wire for 40 amp load for the following conditions. Continuous load, 3 wires in the bundle, 125 deg F.(Refer to Tables 310.15.B & 310.16 at the end of the study guide)
1/0
3 ga
4 ga
6 ga
8 ga

Question 36: A standard plug fuse will fit in an S type fuse holder.
True
False

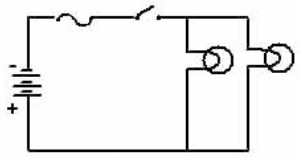
Question 37: A standard plug fuse can be reset.
True
False

Question 38: Circuit breakers are interchangeable between manufacturers.
True
False

Question 39: The common rating of a circuit breaker is in _____.
volts
ohms
arch corona rating
amps
dielectric strength

Quiz 3.

1



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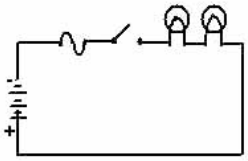

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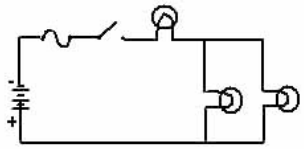


Question 1: A series/parallel circuit is represented by illustration _____.
1
2
3

Question 2: A parallel circuit is represented by illustration _____.
1
2
3

Question 3: A series circuit is represented by illustration _____.
1
2
3

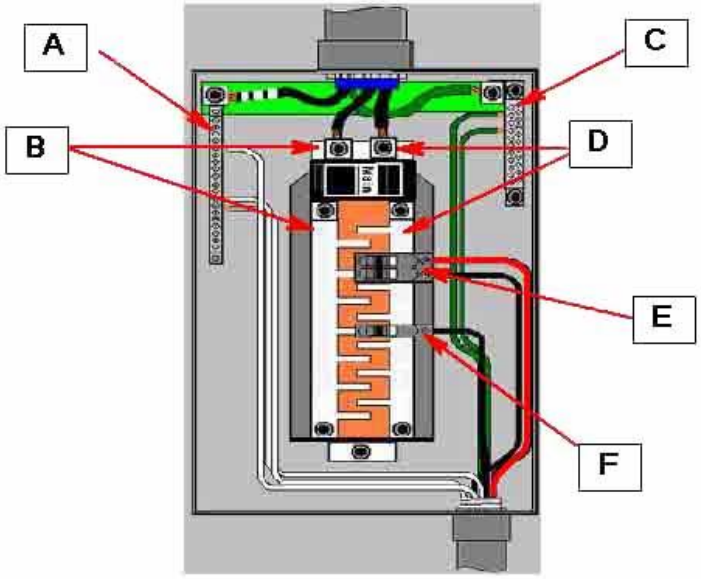
Question 4: A transformer can produce _____.
AC voltage
DC voltage
both AC and DC

Question 5: A transformer can _____.
step up voltage.
step-down voltage.
both step up and step-down voltage.

Question 6: Voltage is transferred from one side of the transformer to the other side by a process called _____.
introduction
transmutation
attraction
theokanises
induction

Question 7: The major proven problem with the transmission of voltages over long distances is:
Transmission lines overheating.
Resistance in the wire and resulting voltage drops.
Obtaining right of way for access.
Magnetic flux lines causing cancer.
Vulnerability to terrorist attacks.

Power Distribution in Residential / Commercial



Question 8: The ground buss bar is labeled _____.
A
B
C
D
E

Question 9: L1 buss bar is labeled _____.
A
B
C
D
E

Question 10: The 120 v breaker is labeled _____.
A
B
C
D
F

Question 11: The L2 buss bar is labeled _____.
A
B
C
D
E

Question 12: The neutral bus bar is labeled _____.
A
B
C
D
E

Question 13: Water heaters with a rated circuit load in excess of 3,500 watts at 208 volts must be have wire no smaller than:
6 AWG
8 AWG
10 AWG
12 AWG
14 AWG

Question 14: When testing continuity (resistance) your meter should be set to:
ohms
volts
watts
amps
none of the above

Question 15: On a resistance test, when the probes of your meter are touching each other, you should read _____, and when the probes are separate by an air space, you should read _____.
O.L, , 0 or close to it
14 ohms, O.L.
0 , over 250
0 or close to it, O.L.
less than 100, more than 1000

Question 16: If work is required on electrical equipment that has a fused disconnect box, what is the first thing that should be done?
Protect yourself and put the key to the lockout in your pocket.
Turn the disconnect connecting arm or lever to the off position.
Check with a voltage pen to verify that power is off.

Secure power to the electrical circuit by locking out the breaker or disconnect box.
Remove the fuses from the disconnect box.

Question 17: If work is required on electrical equipment that has a fused disconnect box, what is the second thing should be done?
Protect yourself and put the key to the lockout in your pocket.
Turn the disconnect connecting arm or lever to the off position.
Check with a voltage pen to verify that power is off.
Secure power to the electrical circuit by locking out the breaker or disconnect box.
Remove the fuses from the disconnect box.

Question 18: If work is required on electrical equipment that has a fused disconnect box, what is the third thing that should be done?
Protect yourself and put the key to the lockout in your pocket.
Turn the disconnect connecting arm or lever to the off position.
Check with a voltage pen to verify that power is off.
Secure power to the electrical circuit by locking out the breaker or disconnect box.
Remove the fuses from the disconnect box.

Question 19: If work is required on electrical equipment that has a fused disconnect box, what is the fourth thing that should be done?
Protect yourself and put the key to the lockout in your pocket.
Turn the disconnect connecting arm or lever to the off position.
Check with a voltage pen to verify that power is off.
Secure power to the electrical circuit by locking out the breaker or disconnect box.
Remove the fuses from the disconnect box.

Question 20: If work is required on electrical equipment that has a fused disconnect box, what is the last thing that should be done?
Protect yourself and put the key to the lockout in your pocket.
Turn the disconnect connecting arm or lever to the off position.
Check with a voltage pen to verify that power is off.
Secure power to the electrical circuit by locking out the breaker or disconnect box.
Remove the fuses from the disconnect box.

Question 21: What is the first step in rescuing a person?
Use a non-conducting wooden broom handle to move the electrical wire from the victim.
Find breaker and disconnect and turn off power. If you cannot find the breaker/disconnect, proceed
If victim is unconscious, apply first aid and CPR. Call 911 for medical attention.
Cover the victim and keep warm until rescue paramedics get there.

Question 22: What is the second step in rescuing a person?
Use a non-conducting wooden broom handle to move the electrical wire from the victim.
Find breaker and disconnect and turn off power. If you cannot find the breaker/disconnect, proceed breaker/disconnect, proceed
If victim is unconscious, apply first aid and CPR. Call 911 for medical attention.
Cover the victim and keep warm until rescue paramedics get there.

Question 23: What is the third step in rescuing a person?
Use a non-conducting wooden broom handle to move the electrical wire from the victim.
Find breaker and disconnect and turn off power. If you cannot find the breaker/disconnect, proceed
If victim is unconscious, apply first aid and CPR. Call 911 for medical attention.
Cover the victim and keep warm until rescue paramedics get there.

Question 24: What is the fourth step in rescuing a person?
Use a non-conducting wooden broom handle to move the electrical wire from the victim.
Find breaker and disconnect and turn off power. If you cannot find the breaker/disconnect, proceed
If victim is unconscious, apply first aid and CPR. Call 911 for medical attention.
Cover the victim and keep warm until rescue paramedics get there.

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