Chapter 2

B-003-16-01
How much voltage does a standard automobile battery usually supply ?

1. About 240 volts
2. About 120 volts
3. About 12 volts
4. About 9 volts

B-003-16-02
Which component has a positive and a negative side?

1. A potentiometer
2. A fuse
3. A resistor
4. A battery

B-003-16-03
A cell, that can be repeatedly recharged by supplying it with electrical energy, is known as a:

1. low leakage cell
2. memory cell
3. storage cell
4. primary cell

B-003-16-04
Which of the following is a source of EMF?

1. germanium diode
2. lead acid battery
3. P channel FET
4. carbon resistor

B-003-16-05
An important difference between a conventional flashlight battery and a lead acid battery is that only the lead acid battery:

1. has two terminals
2. can be repeatedly recharged
3. can be completely discharged
4. contains an electrolyte

B-003-16-06
A dry cell has a nominal voltage of 1.5 volt. When supplying a great deal of current, the voltage may drop to 1.2 volt. This is due to the cell's:

1. electrolyte becoming dry
2. internal resistance
3. current capacity
4. voltage capacity

B-003-16-07
The most common primary cell in use today is the carbon-zinc or flashlight cell. This cell can be recharged:

1. never
2. twice
3. many times
4. once

B-003-16-08
All storage batteries have discharge limits, and nickel-cadmium, the type most used in hand-held portables, should not be discharged to less than:

1. 0.5 volt per cell
2. 1.5 volt per cell
3. 0.2 volt per cell
4. 1.0 volt per cell

B-003-16-09
To increase the current capacity of a cell, several cells should be connected in:

1. series
2. parallel
3. parallel resonant
4. series resonant

B-003-16-10
To increase the voltage output, several cells are connected in:

1. parallel
2. series parallel
3. resonance
4. series

B-003-16-11
A nickel-cadmium battery should never be:

1. short-circuited
2. recharged
3. left disconnected
4. left overnight at room temperature

B-004-06-01
How do you find a resistor's tolerance rating?

1. By using Thevenin's theorem for resistors
2. By reading the resistor's colour code
3. By reading its Baudot code
4. By using a voltmeter

B-004-06-02
What do the first three-colour bands on a resistor indicate?

1. The resistance material
2. The power rating in watts
3. The value of the resistor in ohms
4. The resistance tolerance in percent

B-004-06-03
What does the fourth colour band on a resistor mean?

1. The value of the resistor in ohms
2. The power rating in watts
3. The power rating in watts
4. The resistance tolerance in percent

B-004-06-04
What are the possible values of a 100 ohm resistor with a 10% tolerance?

1. 90 to 110 ohms
2. 90 to 100 ohms
3. 10 to 100 ohms
4. 80 to 120 ohms

B-004-06-05
How do you find a resistor's value?

1. By using the resistor's colour code
2. By using a voltmeter
3. By using Thevenin's theorem for resistors
4. By using the Baudot code

B-004-06-06
Which tolerance rating would a high-quality resistor have?

1. 5%
2. 10%
3. 20%
4. 0.1%

B-004-06-07
Which tolerance rating would a low-quality resistor have?

1. 20%
2. 0.1%
3. 5%
4. 10%

B-004-06-08
If a carbon resistor's temperature is increased,
what will happen to the resistance?

1. It will stay the same
2. It will change depending on the resistor's temperature coefficient rating
3. It will become time dependent
4. It will increase by 20% for every 10 degrees centigrade

B-004-06-09
A gold band on a resistor indicates the tolerance is:

1. 20%
2. 10%
3. 5%
4. 1%

B-004-06-10
A resistor with a colour code of brown, black, and red, would have a value of:

1. 1000 ohms
2. 100 ohms
3. 10 ohms
4. 10 000 ohms

B-004-06-11
A resistor is marked with the colours red, violet and yellow. This resistor has a value of:

1. 274
2. 72 k
3. 27 M
4. 270 k

B-005-02-01
Name three good electrical conductors.

1. Gold, silver, wood
2. Gold, silver, aluminum
3. Copper, aluminum, paper
4. Copper, gold, mica

B-005-02-02
Name four good electrical insulators.

1. Plastic, rubber, wood, carbon Paper
2. glass, air, aluminum Glass, air
3. air, plastic, porcelain Glass, wood
4. porcelain Glass, wood, copper, porcelain

B-005-02-03
Why do resistors sometimes get hot when in use?

1. Their reactance makes them heat up
2. Hotter circuit components nearby heat them up
3. They absorb magnetic energy which makes them hot
4. Some electrical energy passing through them is lost as heat

---

B-005-02-04
What is the best conductor among the following materials?

1. carbon
2. silicon
3. aluminium
4. copper

B-005-02-05
The material listed, which will most readily allow an electric current to flow, is called?

1. a conductor
2. an insulator
3. resistor
4. a dielectric

B-005-02-06
A length of metal is connected in a circuit and is found to conduct electricity very well. It would be best described as having a:

1. high resistance
2. high wattage
3. low wattage
4. low resistance

B-005-02-08
The reciprocal of resistance is:

1. conductance
2. reactance
3. reluctance
4. permeability

B-005-02-10
The resistance of a conductor changes with:

1. voltage
2. temperature
3. current
4. humidity

B-005-02-11
The most common material used to make a resistor is:

1. carbon
2. gold
3. mica
4. lead

B-005-06-01
Why would a large size resistor be used instead of a smaller one of the same resistance?

1. For better response time
2. For a higher current gain
3. For less impedance in the circuit
4. For greater power dissipation

B-005-06-11
Resistor wattage ratings are:

1. calculated according to physical size
2. expressed in joules per second
3. determined by heat dissipation
4. qualities variable in steps of one hundred
