electrical/Electronics Final Study Guide

What can be described as a by-product of battery current flow?

To prevent electrical arcing, connect the \_\_\_\_\_\_\_\_\_\_\_\_ last

What step that should be taken after working with the electrical systems of a vehicle?

What is a method for gathering the wires of a wiring harness?

When a system ground is suspected as a possible problem cause, locating the \_\_\_\_\_ using the wiring diagram can be a time saver.

What is used in place of a separate voltmeter, ohmmeter, and ammeter?

An “M” (capitalized) is a symbol displayed on the DMM that means what?

A DMM on the ohmmeter function reads 23.5 with a “k” displayed. What does the reading convert to in ohms?

What is used to bypass circuit components to identify faulty portions of the circuit?

What displays voltage as a line across a cathode ray tube or liquid crystal screen?

The purpose of a work order is to \_\_\_\_\_\_\_\_\_\_\_\_\_.

A work order typically includes the \_\_\_\_\_\_\_\_\_\_\_.

The purpose of a voltage drop test is to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

An electrical short occurs when current follows a/an \_\_\_\_\_ path within a circuit.

What is a general rule of wire repair?

**The following statements made by Technicians are either true or false**

Technician says when opening an electrical circuit, disconnect the negative cable first.

Technician says many of the hazards technicians face when working with electrical systems pose a danger to the vehicle.

Technician says most technicians do not need service information to repair electrical systems in today’s vehicles.

Technician says the purpose of TSBs is to provide a shortened, more concise version of the service information.

Technician says wiring diagrams often represent the actual length of wires or the distance between components.

Technician says detailed diagnostics are generally easy when using pictorial wiring diagrams.

Technician says the colored insulation of different wires allows circuit tracing.

Technician says the colors used for wiring and connectors are the same for most vehicle makes and models.

Technician says manufacturers do not route wires from several different electrical systems together in the same wiring harness.

Technician says wiring diagrams that show the color of the wire connected to the matching terminal in a connector are helpful for bench testing procedures.

Technician says a DMM’s voltmeter function measures the amount of electric current through a circuit.

Technician says a DMM’s ammeter function measures the EMF between two points in a circuit.

Technician says DMMs are often required to test electrical systems because of their high meter impedance.

Technician says meter impedance is the combined resistance to current created by the meter’s resistance, capacitance, and inductance.

Technician says to get an accurate DMM reading, the decimal point, prefixes, and symbols of the reading must also be interpreted.

Technician says the DMM’s function switch is used to select manual range or autorange.

Technician says the DMM’s black lead is connected to the COM terminal for all tests.

Technician says the terminal where the red lead is connected varies depending on the type of measurement.

Technician says the light in a test light glows different colors based on the amount of voltage in a circuit.

Technician says if the light of a continuity tester comes on when hooked in series to a circuit, the circuit is continuous.

Technician says a DSO is used to check the performance of a vehicle’s ignition system.

Technician says a DSO is used to test diodes in the alternator.

Technician says a DSO can store the signal reading and allow for the data to be accessed at a later time.

Technician says the DSO’s voltage (vertical) setting controls when the pattern begins to display on the screen.

Technician says a work order does not include services that the shop contracts out.

Technician says a work order typically includes the diagnosis made by the person who did the repair.

Technician says when ordering a repair part, the part vendor may need to know the vehicle’s engine size.

Technician says when ordering a repair part, the part vendor may need to know the number of doors on the vehicle.

Technician says that high-voltage components must be located before servicing an HEV.

Technician says those servicing HEVs must wear high-voltage safety gloves and face shields.

Technician says an open is an electrical fault caused by a gap or hole in the conductor.

Technician says a short occurs when current bypasses the load devices of the circuit.

Technician says it is best to choose a slightly smaller size of wire when replacing a damaged wire.

Technician says the battery should be disconnected before splicing wires.

Technician says resin-type flux is recommended for soldering electrical splices because it conducts electricity.

Technician says resin-type flux causes oxide to form on wires.

Technician says when soldering a wire splice, the splice should be heated with the iron’s tip before applying the solder.

Technician says after soldering a wire splice, the splice should not be moved until the solder sets.

Technician says when splicing wires, 1/8 inch of the wire insulation should be inside the splice.

Technician says using the positions marked “INS” on the crimping tool will not produce a tight crimp.