Auto Upkeep (4th Edition) Name _____
Chapter 9 Test Date ____/____/____
Electrical System Test Score ____

Section 1: Selected Response
Directions: Place the letter that corresponds to the correct answer on the space provided.

___ 1. Electricity is the movement of electrons through a/an _____.
a. insulator
b. conductor
c. battery case
d. fiber optic line

___ 2. An ohm is a measure of _____.
a. resistance
b. voltage
c. amperage
d. Direct Current

___ 3. How many total volts are most automotive batteries?
a. 2
b. 12
c. 120
d. 240

___ 4. A starter converts _____.
a. electrical energy to mechanical energy
b. mechanical energy to chemical energy
c. radiant energy to mechanical energy
d. thermal energy to chemical energy

___ 5. When replacing an electrical connection, it is good to use _____ to minimize future corrosion.
a. anti-seize compound
b. oil
c. water
d. dielectric grease

___ 6. Where does data processing take place in an automobile?
a. powertrain control module
b. battery
c. starter
d. headlights

___ 7. What color of cables represents high voltage in hybrid vehicles?
a. red
b. black
c. orange
d. purple

___ 8. A _____ uses symbols to represent actual components and lines to depict wires in an electrical circuit.
a. photograph
b. wiring diagram
c. pictorial diagram
d. circuit

___ 9. Which of the following is NOT required for an electrical circuit to work?
a. short
b. power source
c. conductor
d. load

___ 10. In a _____ circuit, two or more electrical loads are wired in a single path.
a. series
b. parallel
c. series-parallel
d. perpendicular

___ 11. A/an _____ is when there is a break in the electrical circuit.
a. short to power
b. short to ground
c. open
d. high resistance

___ 12. To measure voltage, a digital multimeter is connected in _____.
a. series
b. parallel
c. perpendicular
d. none of the above

___ 13. To measure current, a digital multimeter is connected in _____.
a. series
b. parallel
c. perpendicular
d. none of the above

___ 14. In a/an _____ battery a thin ultra-fine fiberglass mat separator absorbs the electrolyte.
a. flooded
b. absorbed glass mat
c. absorbed gas mat
d. rechargeable

___ 15. What type of belt cannot have its tension adjusted?
a. stretch
b. serpentine
c. V-belt
d. Y-belt

Section 2: Selected Response ASE Style Questions
Directions: Place the letter that corresponds to the correct answer on the space provided.

___ 16. Technician A says that a fully charged battery is less likely to freeze than a discharged battery. Technician B says that the state of charge has no impact on freezing. Who is correct?
a. Technician A
b. Technician B
c. Both Technician A and Technician B
d. Neither Technician A nor Technician B

___ 17. Technician A says that it is OK to bypass a fuse with a jumper wire to fix a constantly blowing fuse. Technician B says that you can replace a blown fuse with a larger amperage rating to fix a constantly blowing fuse. Who is correct?
a. Technician A
b. Technician B
c. Both Technician A and Technician B
d. Neither Technician A nor Technician B

___ 18. Technician A says that a V belt is commonly wider than a serpentine belt. Technician B says that a serpentine belt commonly is the only drive belt on an engine. Who is correct?
a. Technician A
b. Technician B
c. Both Technician A and Technician B
d. Neither Technician A nor Technician B

___ 19. Technician A says some vehicles use computer regulation instead of a standard voltage regulator. Technician B says that when the engine is running the voltage is commonly regulated around 14.5 volts. Who is correct?
a. Technician A
b. Technician B
c. Both Technician A and Technician B
d. Neither Technician A nor Technician B

___ 20. Technician A says some batteries have built in battery hydrometers. Technician B says that CCA and CA mean the same thing. Who is correct?
a. Technician A
b. Technician B
c. Both Technician A and Technician B
d. Neither Technician A nor Technician B

Section 3: Constructed Response

Directions: Use complete sentences to answer the following questions. The criteria below will be used to assess your answers.

Outstanding (A = 4.0)	Very Good (B = 3.0)	Acceptable (C = 2.0)	Attempted (D = 1.0)	Did Not Attempt (F = 0)
Student demonstrates a complete understanding of the problem. Several details and examples were given to support the answer. The response was extremely well organized.	Student demonstrates a considerable understanding of the problem. Some details and examples were given to support the answer. The response was presented in a thoughtful manner.	Student demonstrates a partial understanding of the problem. Few details and examples were given to support the answer. The response was somewhat organized, but did not have smooth transitions.	Student demonstrates little understanding of the problem. Details and examples were not relevant or not given. The response was difficult to follow and confusing to the reader. However, the student made an honest attempt at answering the question.	No attempt was made to answer the question.

21. What are the components in the charging system? Describe each component's purpose.

22. What are the components in the starting system? Describe each component's purpose.