Study Guide Questions for Energy and Power

CIRCLE the correct letter

Name_________________________

Period _____

Day 1

1. ______ energy involves moving objects.
   A. Thermal
   B. Mechanical
   C. Radiant
   D. Chemical

2. __________ is a measurement of energy generated over time.
   A. Work
   B. Mass
   C. Power
   D. Horsepower

3. ______ energy is the most versatile form of energy.
   A. Electrical
   B. Nuclear
   C. Radiant
   D. Chemical

4. Electricity is the energy produced by flowing ______.
   A. microns
   B. protons
   C. electrons
   D. neutrons

5. Chemical energy is released during chemical ______.
   A. conversions
   B. actions
   C. creations
   D. reactions

6. ______ energy is transmitted atom to atom.
   A. Mechanical
   B. Radiant
   C. Thermal
   D. Electrical

7. __________ energy is dependent upon the shape and temperature of an object.
   A. Radiant
   B. Thermal
   C. Mechanical
   D. Electrical

8. ______ is the form of energy provided by the Sun.
   A. Thermal
   B. Heat
   C. Radiant
   D. Mechanical

9. ______ is a nonrenewable energy source.
   A. Solar
   B. Geothermal
   C. Hydroelectric
   D. Natural gas

10. ______ makes up 95 percent of natural gas.
    A. Methane gas
    B. Nitrogen gas
    C. Argon gas
    D. Propane gas
Day 2

1. _____ and fuel combine for combustion to take place.
   A. Oxygen
   B. Nitrogen
   C. Argon
   D. Hydrogen

2. During the _____ stroke, fuel and air are mixed.
   A. power
   B. intake
   C. exhaust
   D. compression

3. Combustion occurs during the _______ stroke of a four-cycle engine.
   A. intake
   B. compression
   C. power
   D. exhaust

4. During the _____ stroke, unwanted gases are released.
   A. power
   B. compression
   C. intake
   D. exhaust

5. _______ is the last stroke of a four-cycle engine.
   A. Intake
   B. Compression
   C. Exhaust
   D. Power

6. _______ is a renewable source of energy.
   A. Wind
   B. Coal
   C. Oil
   D. Natural gas

Day 3

1. The _____ system keeps the temperature of an engine down.
   A. ignition
   B. fuel
   C. cooling
   D. exhaust

2. The _____ system mixes fuel and air.
   A. ignition
   B. fuel
   C. cooling
   D. exhaust

3. The carburetor is part of the _______ system.
   A. ignition
   B. fuel
   C. cooling
   D. exhaust

4. The _____ protects the engine from contaminants.
   A. governor
   B. air cleaner
   C. fuel cleaner
   D. gas cap

5. The ____ mixes fuel and air in an engine.
   A. spark plug
   B. fuel tank
   C. carburetor
   D. cylinder

6. _______ are part of the ignition system.
   A. Carburetors
   B. Pistons
   C. Valves
   D. Spark plugs

7. _____ supplies the electric coil with electricity.
   A. Gasoline
   B. The ignition magnet
   C. The carburetor
   D. The intake valve
Day 4

1. The _____ valves release unwanted gases from the cylinder.
   A. release
   B. filter
   C. intake
   D. exhaust

2. The ____ valves allow fuel into the cylinder.
   A. release
   B. filter
   C. intake
   D. exhaust

3. _ produced one of the first internal combustion engines.
   A. Watt
   B. De Rivaz
   C. Benz
   D. Ford

4. _______ invented the first gasoline-burning internal combustion engine.
   A. De Rivaz
   B. Benz
   C. Lenoir
   D. Ford

5. _____ move up and down in the cylinder.
   A. Valves
   B. Filters
   C. Pistons
   D. Plugs

6. The _____ connects the piston and the crankshaft.
   A. camshaft
   B. carburetor
   C. stem
   D. con rod

7. The ________ controls the movement of the valves.
   A. camshaft
   B. crankshaft
   C. piston
   D. air cleaner

Day 5

1. The discovery of ________ made the internal combustion engine popular.
   A. natural gas
   B. oil
   C. coal
   D. nuclear power

Day 6

1. _______ invented the first battery.
   A. Ford
   B. Edison
   C. Lenoir
   D. Volta

2. When did gasoline cars greatly surpass electric cars in popularity?
   A. In 1888
   B. 1900 - 1910
   C. In 1900
   D. After about 1910

Day 7

1. The _______ is NOT one of the five basic components of an electric car.
   A. energy storage system
   B. generator system
   C. exhaust system
   D. control system

2. An electric motor converts electrical energy into _____ energy.
   A. radiant
   B. chemical
   C. mechanical
   D. thermal

3. An electric generator converts ___ energy into electrical energy.
   A. radiant
   B. chemical
   C. thermal
   D. mechanical
4. The main problem with the electric vehicle is ______.
A. energy storage  
B. control  
C. accelerating  
D. the drive train

Day 8

1. In a solar cell, __________ produces a low-voltage current when exposed to sunlight.
A. cadmium sulfate  
B. lead  
C. silicon  
D. both A and C

2. The by-products of the fuel cell are electricity and ___.
A. hydrogen  
B. methane  
C. water  
D. nitrogen

3. A ___ works from a reaction between hydrogen and oxygen.
A. battery  
B. fuel cell  
C. nuclear reactor  
D. solar cell

4. In a nuclear battery, a ____ converts nuclear heat into electricity.
A. rheostat  
B. thermocouple  
C. vacuum tube  
D. microchip

Day 10

1. Through photosynthesis green plants convert _____ into food.
A. carbon dioxide and water  
B. sunlight and carbon dioxide  
C. oxygen and water  
D. none of the above

2. One calorie equals ________ kilojoules.
A. 2.0  
B. 4.2  
C. 8.0  
D. 100

3. Humans get energy from ________.
A. proteins  
B. fats  
C. carbohydrates  
D. all of the above

4. Absorbed food is combined with ________ to produce energy for the human body.
A. blood  
B. enzymes  
C. oxygen  
D. none of the above