1. What electrical component is used to send a voltage surge which can result from a nearby lightning strike to earth ground?

2. What letter represents voltage in Ohms Law? What letter represents current in Ohms Law? What letter represents resistance in Ohms Law?

3. Name the following electrical components according to their description.
    a. A small electrical device that allows electricity to flow in a single direction.
    b. An electrical device that can hold a charge a release it quickly as needed.
    c. An electrical device that is defined by wattage and ohms.
    d. A small electrical component that acts as a switch. When an electrical charge (1) is applied to the base, the circuit is closed (1).

4. Name four materials that are good conductors?

5. Name four materials that are good insulators?

6. You are a LAN Manager at a college and your room seems to be subject to nearby power surges and lightning strikes. What positive steps can you take to protect your network?

7. Annually check the building's Earth ground connection to assure a safe exit of the surges

8. Do connectors typically have some sort of mark or shape to guarantee correct orientation and alignment when plugged in? Give examples.

9. This device is made of steel which is mostly made of iron. We can see copper wire coiled around the stacked steel stampings many times. When we look closely we see another coil of copper wire wrapped around the first windings and they are separated by what looks like a piece of plastic insulation. One the box that this device cam in says the primary is 120 volts and the secondary voltage is 12 volts. What is the device?

10. What are the common form factors used by computer manufacturers that reflect in power supply designs?

11. ATX Version 2.2 P1 motherboard power connectors have _____ pins. The first ATX P1 power connectors had ____ pins.

12. What three voltages are present on an ATX P1 power connector?

13. After the step down transformer in a power supply's electrical circuit, we can see a bridge rectifier which can be made with four _____. This circuit will convert the negative Sine wave to positive.

14. What are the units of measurement for the following electrical terms:
    a. Power
    b. Electromotive Force (EMF)
    c. Current
    d. Resistance

15. This method of transmitting power is most commonly found between the power company all the way to the electrical outlets in our businesses and homes. This method is seen to have oscillate as a Sine wave from positive to negative repeating the cycle 60 times a second in the United States and 50 times a second in Europe.

16. This method of transmitting power is most commonly found inside electrical equipment in our businesses and homes. This method is seen to have constant voltage.

17. Describe single phase and three phase power.

18. When lubricating a noisy power supply fan, we want to use what type of oil?

19. When working on the inside of the computer doing maintenance such as adding memory, inserting a graphics card or changing our hard drive, we should take what precautions against electrical shock.

20. What two voltages are available on a Molex connector connected to an IDE drive?

21. What three voltages are available on a connector connected to a SATA drive?

22. When shipping a graphics card, memory or processor to another facility, we want make sure the unit is in a box that will hold the device firmly so it is not damaged. We also want to place it in _____ to prevent it from receiving an Electrostatic Shock (ESD).

23. What is a magnetic field produced from electrical circuits that can cause other devices to fail or perform in a degraded mode?

24. Magnetic field produced from electrical circuits and travels through the air that can cause other devices to fail or perform in a degraded mode.