Magnetism

1. What is the formula for determining the magnitude of the force experienced by a charge moving through a magnetic field?
2. Explain the right hand rule for determining the direction of the force experienced by a charge moving through a magnetic field.
3. What is the formula for calculating the magnitude of the force exerted on a current carrying wire when in a magnetic field?
4. Explain the right hand rule for determining the direction of the force exerted on a current carrying wire when in a magnetic field.
5. A horizontal wire is moved vertically downward through a magnetic field. If the wire extends from right to left and the magnetic field is directed toward the observer, which end of the wire will be positive as a result of the induced emf?
6. What is the magnetic polarity of the earth's magnetic pole found in Canada?
7. Explain the right hand rule for determining the direction of the magnetic field induced around a current carrying wire.
8. What is the primary use of a transformer? What kind of current is necessary for a transformer to function?
9. Transformers are used to change alternating current voltages. How is the output voltage of a transformer determined?
10. What is the reason for stepping the voltage up to 400,000 volts when transmitting power from a power plant to a city?
11. How are transformers constructed?
12. How is the current output of a transformer related to the current input and the "turn ratio"?
13. A microscopic magnetic region composed of a group of atoms whose magnetic fields are aligned in a common direction is called a(n) ____. In most materials, when these groups are randomly distributed, the substance will show ____ magnetism.
14. Which of the following statements about Earth's magnetic field is true?
15. A solenoid is in an upright position on a table. A clockwise current—when viewed from above—causes the solenoid to have a ____ magnetic pole at its bottom end. If a compass is placed at the top of the solenoid, the north pole of the compass would be ____.
16. Which of the following situations is not true for magnets?
17. The lines of the magnetic field around a current-carrying wire
18. If you break a bar magnet in half, each half
19. Where is the magnitude of the magnetic field around a permanent magnet greatest?
20. The source of all magnetic force is:
21. Draw a bar magnet and the magnetic field lines around it.
22. Magnetic field lines surrounding a magnet are Consider two long, straight, parallel wires, each carrying a current I. If the currents move in the same direction,
23. What is the path of an electron moving perpendicular to a uniform magnetic field?
24. All of the following statements about magnetic field lines around a permanent magnet are true except which one?
25. Which pole of a compass needle points to a south pole of a magnet?
26.