REVIEW EXERCISES

Circle the letter of the correct answer to each question.

1. What charge will the atom assume if electrons are torn away from a neutral atom?

   a. Negative.
   b. Positive.
   c. Zero.
   d. Neutral.

2. What is a substance, the basic component of which is a molecule of unlike atoms?

   a. An element.
   b. A mixture.
   c. Oxygen.
   d. A compound.

3. In which direction will the current-carrying conductor in figure 1-24 move?

   a. Left.
   b. Right.
   c. Up.
   d. Down.

4. What is an electric current?

   a. Moving electrolyte.
   b. Moving electrodes.
   c. Moving electrolysis.
   d. Moving electrons.

5. What action will cause current flow through the conductor in to the page in figure 1-25?

   a. Move field to right.
   b. Move conductor to left.
   c. Move field up.
   d. Move conductor up.

6. If conductor X is fixed, in figure 1-26, W will move in what direction?

   a. Right.
   b. Left.
   c. Up.
   d. Down.

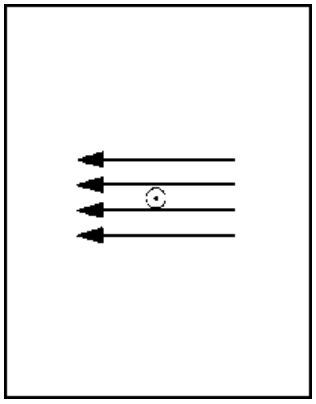

Figure 1-24.

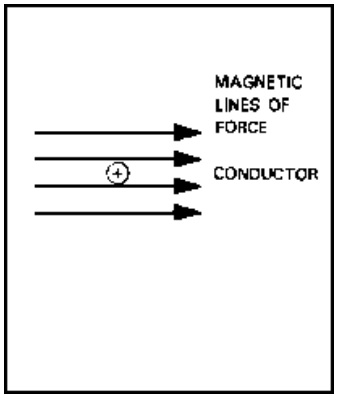

Figure 1-25.

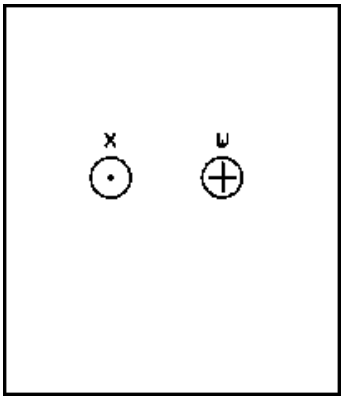

Figure 1-26.

7. How is the magnetic field around a current-carrying conductor described?

   a. Permanent and natural.
   b. Temporary-artificial.
   c. Permanent-artificial.
   d. Temporary and natural.

8. What represents the angle that the compass makes with the geographical meridian?

   a. Inclination.
   b. Accident.
   c. Declination.
   d. Incident.

9. What position do electric circuits tend to take so that their currents will satisfy what conditions?

   a. Be perpendicular and flow in opposite directions.
   b. Be parallel and flow in the same direction.
   c. Be parallel and flow in opposite directions.
   d. Be perpendicular and flow in the same direction.

10. A bar magnet with a cross section area of 2 sq cm contains 1,000 lines of magnetic force. What is the flux density of the magnet?

   a. 500 maxwell.
   b. 500 gauss.
   c. 2,000 maxwell.
   d. 2,000 gauss.

11. What is the direction of the resultant magnetic field at point P in figure 1-27?

    a. ↑
    b. →
    c. ↓
    d. ←

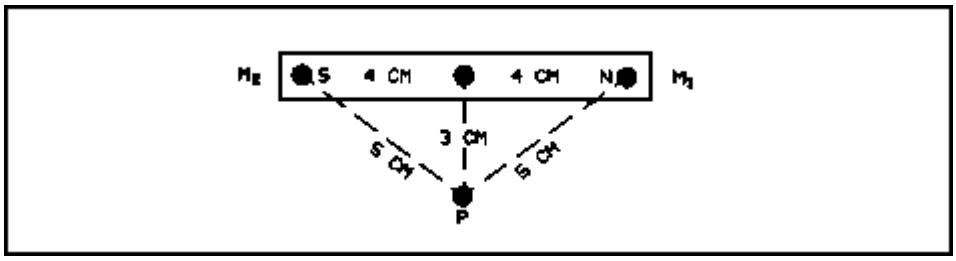

Figure 1-27.

12. A magnetic pole of 50 unit poles strength exerts a force of 200 dynes upon a second pole 5 cm distance in the air from the first pole. What is the strength, in UP (unit poles), of the second pole?

    a. 200.
    b. 198.
    c. 100.
    d. 6.

13. Assume that the magnetic poles are concentrated at the ends of the magnets. What force exists between the south poles? See figure 1-28.

    a. 4,000 dynes attraction.
    b. 4,000 dynes repulsion.
    c. 100 dynes attraction.
    d. 100 dynes repulsion.

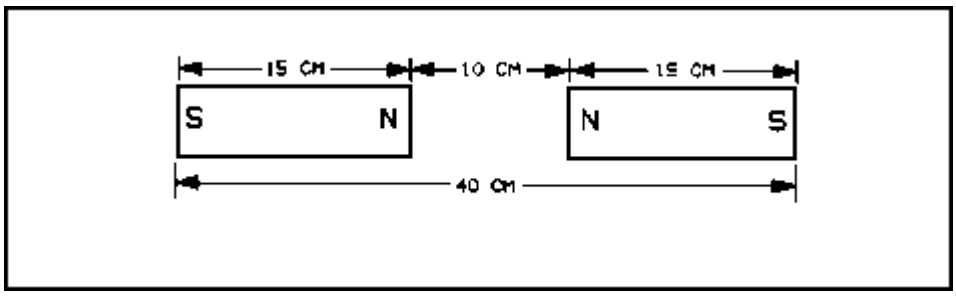

Figure 1-28.

14. What is the force of repulsion, in dynes, between the two north poles in figure 1-29? (Do not consider forces exerted by the south poles.) Pole strength of each magnet is 800 units.

    a. 25,600.
    b. 25,824.
    c. 12,784.
    d. 6,327.

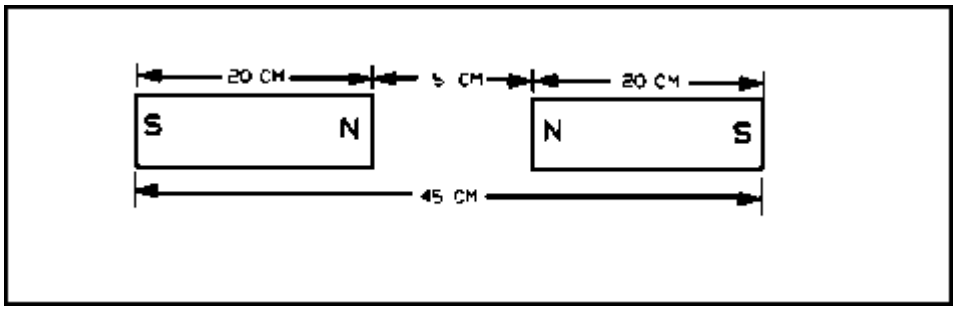

Figure 1-29.

15. What is the smallest component into which a compound can be subdivided by physical means?

    a. An electron.
    b. A proton.
    c. A molecule.
    d. An atom.

16. How is the resultant field affected by lines of force in the same direction in a magnetic field?

    a. Reinforced.
    b. Canceled.
    c. Attenuated.
    d. Neutralized.

17. What material is normally used as an insulator?

    a. Zinc.
    b. Silver.
    c. Gold.
    d. Mica.

18. What difference exists between balanced atoms of various elements?

    a. Number and arrangement of electrons and protons.
    b. Number and size of electrons and protons.
    c. Number and weight of electrons and protons.
    d. Number and polarity of electrons and protons.

19. What is the unit of measure of magnetic field intensity?

    a. Dyne.
    b. Gauss.
    c. Coulomb.
    d. Oersted.

20. What is the resulting action when a conductor is moved rapidly through a continuous magnetic field?

    a. The magnetic field will be canceled.
    b. The magnetic field will be neutralized.
    c. Current will flow in the conductor.
    d. Current will not flow in the conductor.

Recheck your answers to the Review Exercises. When you are satisfied that you have answered every question to the best of your ability, check your answers against the Exercise Solutions. If you missed four or more questions, you should retake the entire lesson, paying particular attention to the areas in which your answers were incorrect.