## Lesson 10

## Quiz Key

- 1. The magnetic lines of flux induced by current flow are:
  - a. In the same direction as current flow.
  - b. Varies with the type of current.
  - c. In the same direction as the grain of the material.
  - d. At 90° to the current direction.
- 2. A circular field induced by a current flow though a test object creates a field both in the test object and in the air surrounding the test object.
  - a. <u>True</u>
  - b. False
- Prods may be used to induce a longitudinal magnetic field.
  - a. True
  - b. <u>False</u>

- 4. An indirect method of inducing a circular magnetic field is with a:
  - a. Coil.
  - b. Yoke.
  - c. Central conductor.
  - d. Head shot.
- An indirect method of inducing a longitudinal magnetic field is with a:
  - a. Coil.
  - b. Prod unit.
  - c. Central conductor.
  - d. Head shot.
- 6. A long, uniform, hollow test object magnetized with a central conductor:
  - a. Will have a north and south pole at each end.
  - b. Will have a north and south pole at random locations.
  - Will have a north and south pole at opposite sides of the circumference.
  - d. Will have no external poles.

- 7. In order to induce a uniform longitudinal field in a coil, the test object must have a length-to-diameter ratio of at least:
  - a. <u>2</u>.
  - b. 4.
  - c. 6.
  - d. 15.
- 8. When a ring or wheel is placed inside a coil, radial or transverse discontinuities can be detected if the test object is rotated 90° and repositioned in the coil at least twice.
  - a. True
  - b. False
- 9. The only type of material that can be tests by magnetic particle testing is:
  - a. Diamagnetic.
  - b. Paramagnetic.
  - c. Ferromagnetic.
  - d. All of the above.

- 10. The mathematically calculated starting magnetizing force to use for a test object with a length-to-diameter ratio of five, held close to the side of a low fill factor five turn coil is:
  - a. 9000 A turns.
  - b. 1800 A.
  - c. 4500 A.
  - d. both a. and b.
  - e. none of the above.
- 11. An intermediate fill factor coil/test object combination is when the cross-sectional area of the coil is greater than two and less than 10 times the cross-sectional area of the test object.
  - a. True
  - b. False
- 12. The cross-sectional area ratio of a 20 in. coil and a 5 in. test object is:
  - a. 2.
  - b. 4.
  - c. 10.
  - d. <u>16</u>.