Practice Quiz (Ch 24)

1) The source of all magnetism is
A) tiny pieces of iron.
B) tiny domains of aligned atoms.
C) ferromagnetic materials.
D) moving electric charge.
E) all above
Answer: E

2) Moving electric charges will interact with
A) an electric field or a magnetic field.
B) only a magnetic field.
C) only an electric field.
D) none of these
Answer: A

3) If a steady magnetic field exerts a force on a moving charge, that force is directed
A) in the direction of the field.
B) opposite the direction of the field.
C) at right angles to the direction of the field.
Answer: C

4) Like kinds of magnetic poles repel while unlike kinds of magnetic poles
A) attract.
B) repel also.
C) may attract or repel.
Answer: A

5) An iron nail is more strongly attracted to the
A) north pole of a magnet.
B) south pole of a magnet.
C) north or south pole – no difference really.
Answer: C

6) Magnetism is due to the motion of electrons as they
A) move around the nucleus.
B) spin on their axes.
C) Choices A and B are both correct.
D) None of the above choices are correct.
Answer: C

7) Magnetic field lines about a current-carrying wire
A) extend radially from the wire.
B) circle the wire in closed loops.
C) Choices A and B are both correct.
D) None of the above choices are correct.
Answer: B
8) The intensity of cosmic rays bombarding the Earth's surface is largest at the
A) poles.
B) mid-latitudes.
C) equator.
Answer:  A

9) Pigeons navigate primarily by
A) a good memory.
B) a keen sense of smell.
C) magnetic sensors in their heads.
D) ultra-high-pitched sounds.
E) none of these
Answer:  C

10) Compared to the huge force that attracts an iron tack to a strong magnet, the force that the
tack exerts on the magnet is
A) relatively small.
B) equally huge.
C) More information is needed.
Answer:  B

11) If a compass is moved from the northern hemisphere to the southern hemisphere, its
magnetic needle will change direction
A) by 180 degrees.
B) depending on where the measurement is taken.
C) by 90 degrees.
D) hardly at all.
E) none of these
Answer:  D