Name	

Chapter 3	36 - M	ultiple	Choice
-----------	--------	---------	--------

1.	if the north pole of one magnet is brought near the south pole of another magnet, the poles will
	a. attract each other
	b. repel each other
	·
	c. have no effect on each other
	d. repel or attract depending on which pole is stronger.
2.	If a bar magnet is broken in half, each half:
<u> </u>	
	a. becomes unmagnetized
	b. contains one magnetic pole
	c. becomes a bar magnet with two poles
2	In a magnetic field the needle of a magnetic compace will:
3.	In a magnetic field the needle of a magnetic compass will:
	a. vibrate wildly
	b. point in a direction parallel to the magnetic field
	c. point in a direction perpendicular to the magnetic field
4.	Magnetic field strength is:
—— "	
	a. strongest close to the magnet
	b. strongest far from the magnet
	c. unaffected by distance from the magnet
5.	Magnetic fields are produced by:
0.	
	b. moving electric charges
	c. both of these
	d. neither of these
6.	Magnetic domains are:
	a. regions that may or may not be magnetized
	and the second of the second o
	c. clusters of atoms whose spins are aligned
	d. produced when a piece of iron is brought near a strong magnet
7.	The reason a magnet can attract an unmagnetized nail is that:
—	a. nails become permanently magnetized in a magnetic field
	b. a magnet can attract anything that is not magnetized
*	c. the magnetic domains in the nail become lined up when near a magnet
	d. the statement is false: a magnet cannot attract an unmagnetized nail
8.	Magnetism is due to the motion of electrons as they:
— ^{0.}	
	b. spin on their axis
	c. both of these
	d. neither of these
9.	The source of all magnetism is:
	b. tiny domains of magnetically aligned atoms
	c. moving electric charges
	d. none of these
10	An iron rod becomes a magnet when:
10.	
	b. its electrons stop moving and point in the same direction
	c. the net spins of its electrons line up in the same direction
	d. it is heated to red heat
44	Magnetic nales, a physical experience in pairs, in the second of the sec
11.	Magnetic poles: a. always exist in pairs b. can exist separately

12.	If a compass needle is moved from the northern hemisphere to the southern hemisphere
	a. the needle will remain pointed in the same direction
	b. the needle will reverse its direction
	c. the needle will no longer have any preferred direction
13.	By convention, the direction of magnetic field lines around a magnet are said to go
10.	a. from north to south
	b. from south to north
	c. either way
14.	When an electric current flows through a coil of wire, the coil:
	a. becomes a magnet b. acquires a static charge c. both d. neither
	A contraction of the state of t
15.	An electromagnet will be stronger if:
	a. more current is used b. more coils are used
	c. it has an iron core
	d. all of these
	· ·
16.	The force on an electron moving in a magnetic field is:
	a. in the same direction as the magnetic field
	b. in a direction opposite to the magnetic field
	c. in a direction perpendicular to the magnetic field
	d. there is no force on an electron moving in a magnetic field
47	In a markey the sail of using that aging is galled
17.	In a motor, the coil of wire that spins is called
	a. a generator b. a brush
	c. an armature
	d. the magneto
	· · · · · · · · · · · · · · · · · · ·
18.	The force that makes the armature of an electric motor spin is the force between:
	a. positive and negative charges
	b. two magnetic fields
	c. electric charges and magnets
	d. none of these
10	The function of the brushes in an electric motor is to:
19.	a. transfer electric current from the battery to the armature
	b. prevent the wires from the battery from twisting as the motor turns
	c. both of the above
	d. neither of the above
Chapte	r 37 – Multiple Choice
20	The strip current can be made to flow in a call of wire by maying a magnet in and out of the call. This is called:
20.	Electric current can be made to flow in a coil of wire by moving a magnet in and out of the coil. This is called: a. magnetic induction b. magnetic deduction c. electromagnetic induction d. electromagnetic deduction
	a. magnetic induction b. magnetic deduction c. electromagnetic induction d. electromagnetic deduction
21.	A device consisting of a coil of wire that is rotated by cranking it in a magnetic field is called:
—-"	a. a transformer b. a generator c. a motor d. a galvanometer
22.	When a magnet is moved in and out of a coil of wire, an electric current is made to flow in the coil. Which of these can
	produce a stronger current?
	a. moving the magnet more quickly
	b. using a stronger magnet
	c. using a coil with more turns
	d. all of these
23	A device used to change the energy of motion into electric energy is called:
23.	a. a transformer b. a motor c. an armature d. a generator
	a, a nancionnoi p. a motor ot an armaturo a, a goriciator
24	When a Genecon is used to light a small light bulb, the energy for lighting the bulb actually comes from:
	a. the electrons in the armature of the Genecon
	b. the magnet in the Genecon
	c. the mechanical energy used to turn the crank
	d. the heat produced from friction

25	 When is less force needed to crank the handle of a Genecon? a. when the circuit is incomplete and no electric current is produced b. then the circuit is complete and electric current is produced c. the force is the same either way
26	 The principle behind the operation of an electric generator is: a. like electric charges repel each other b. unlike electric charges attract each other c. the movement of a wire in a magnetic field results in current in the wire d. like magnetic poles repel each other
27	 A student attaches the leads from Genecon A to Genecon B. As she cranks Genecon A, the handle of Genecon B rotates. In this instance: a. Genecon A is a motor and Genecon B a generator b. Genecon A is a generator and Genecon B is a transformer c. Genecon A is a transformer and Genecon B is a motor d. Genecon A is a generator and Genecon B is a motor
Questi	ons
1.	How does a motor differ from a generator?
2.	Some bicycles have electric generators that are made to turn when the bike wheel turns. These generators provide energy fo the bike's lamp. Will a cyclist coast farther if the lamp connected to the generator is turned on or off? Explain your answer.
3.	How can voltage be induced in a wire with the help of a magnet?
4.	Draw the magnetic field that surrounds a bar magnet.
5.	What purpose does the Earth's magnetosphere serve? HOW?
•	