

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) _____ often form(s) as a result of polar bonds. 1) _____
A) Ice
B) Hydrogen bonds
C) Water
D) Peptide bonds
E) Ionic bonds
- 2) A neutral solution 2) _____
A) has no H^+ .
B) is hydrophobic.
C) has a pH of 0.
D) has equal amounts of H^+ and OH^- .
E) has no OH^- .
- 3) Which of the following results from a transfer of electron(s) between atoms? 3) _____
A) electron-proton interaction
B) ionic bond
C) polar covalent bond
D) hydrogen bond
E) nonpolar covalent bond
- 4) How does one explain the formation of ions? 4) _____
A) gain or loss of protons
B) gain or loss of neutrons
C) gain or loss of electrons
D) sharing of electrons
E) sharing of protons
- 5) Which of the following is an example of hydrogen bonding? 5) _____
A) The bond between H of one water molecule and H of a second water molecule.
B) The bond between O of one water molecule and O of a second water molecule.
C) The bond between the H of a water molecule and the H of a hydrogen molecule.
D) The bond between O of one water molecule and H of a second water molecule.
E) The bond between O and H in a single molecule of water.
- 6) You place a paper clip on the surface of a bowl of water. You observe that the paper clip remains suspended on the surface. This is due to the 6) _____
A) fact the water is a good solvent.
B) surface tension of the water.
C) density of the water.
D) polarity of the water.

- 7) Milk of magnesia is often used to treat stomach upset. It has a pH of 10. Based on this information, which of the following is true? 7) _____
- A) Milk of magnesia is hydrophobic.
 - B) Milk of magnesia is a base.
 - C) Milk of magnesia is an acid.
 - D) Milk of magnesia has the exact same pH as the stomach acid.
- 8) If you examined the universe, the Earth, and the human body, which of the following combinations of elements would you find most common? 8) _____
- A) C, Na, O, N, H, Mg
 - B) S, P, O, N, H, C
 - C) Cl, Ca, C, H, O, P
 - D) C, O, Na, He, P, S
 - E) K, H, C, S, O, P
- 9) A substance with specific properties that cannot be broken down or converted to another substance is a(n) 9) _____
- A) mixture.
 - B) ion.
 - C) molecule.
 - D) element.
 - E) compound.
- 10) If you place a paper towel in a dish of water, the water will move up the towel by capillary action. What property of water gives rise to capillary action? 10) _____
- A) Water molecules have hydrophobic interactions.
 - B) Water is a good solvent.
 - C) Water can form hydrogen bonds.
 - D) Water takes up large amounts of heat when it vaporizes.
 - E) Water molecules separate into H^+ and OH^- ions.
- 11) An atom's nucleus is composed of 11) _____
- A) protons.
 - B) protons and neutrons.
 - C) protons and electrons.
 - D) neutrons.
 - E) neutrons and electrons.
- 12) Polar molecules 12) _____
- A) have an overall negative electric charge.
 - B) are ions.
 - C) have an equal distribution of electric charge.
 - D) have an unequal distribution of electric charge.
 - E) have an overall positive electric charge.