

P1

Name:

Period:

Chem328 Honors Chemistry
Chapter 14 Test A

Part I Multiple Choice/Fill-in Blank: Circle the most appropriate letter (or write this letter on side of question) that best answers the following questions or fill in the blank with most appropriate answer. (2 pts.)

- The Modern Periodic Table is based on:
 - electron configuration
 - atomic number
 - similarities in chemical and physical properties
 - all of these
- As you across a period, the general trend for Ionization Energy is:
 - decreasing
 - increasing
 - constant
 - It changes but not by any trend
- Which of the following elements has the highest electronegativity?
 - iron
 - oxygen
 - argon
 - sodium
- The transition metals would be located in which block of the Modern Periodic Table?
 - s
 - p
 - d
 - f
- Which of the following pairs of particles could be described as isoelectronic?
 - Na^+ and Mg
 - Na^+ and F^-
 - Na^+ and Li^+
 - Na^+ and Cl^-
- The number of the row of elements is the same as the number of
 - the energy level of the valence electrons
 - electrons in an atom of that element
 - protons and neutrons in an atom of that element
 - elements in that particular row of the table
- The chemical properties of an element relate most closely to the element's
 - atomic number
 - atomic mass
 - electron configuration
 - nuclear structure
- The chemical formula for iron(III) carbonate is _____.

9. Mendeleev's periodic table had several empty spaces. As it turned out, Mendeleev was able to use those empty spaces to
- understand electron configuration
 - discover protons and atomic numbers
 - point out errors in the identification of elements
 - predict the properties of undiscovered elements
10. Which of the following is the symbol for the most metallic element in the Nitrogen family?
- a. N b. P c. As d. Sb e) Bi
11. The characteristic properties of metals are the result of
- strongly held valence electrons
 - filled outer energy levels
 - partially filled p-orbitals
 - loosely held valence electrons
12. The ionic radius compared to the atomic radius of the parent atom is
- generally larger for all ions
 - generally smaller for all ions
 - larger for positive ions and smaller for negative ions
 - larger for negative ions and smaller for positive ions
13. Which of the following particles does not have the same electronic configuration as the others?
- a. K^+ b. Al^{3+} c. Ar d. Cl^-
14. Elements in the lanthanoid series have electron configurations that add successive electrons to the
- a. 4s sublevel b. 4d sublevel c. 5f sublevel d. 4f sublevel
15. Within a group of elements in the periodic table, as the atomic number increases, the atomic radii tend to
- a. increase b. decrease c. stay the same d. change in an irregular way
16. An element with the electron configuration of $1s^2 2s^2 2p^6 3s^2$ would belong in which group?
- noble gases
 - halogens
 - alkaline earth metals
 - nitrogen group
17. Which of the following symbols represents an element that is diatomic, is a member of the Halogen family and is a liquid at room temperature
- Cl
 - Br
 - F
 - Hg

18. In a compound of hydrogen and oxygen, which of the atoms will attract the shared electrons more strongly? (Electronegativity of H = 2.2, Electronegativity of O = 3.5)
- a. oxygen
 - b. hydrogen
 - c. electrons would be shared equally
 - d. not enough information given
19. Element X reacts with iodine to form the compound XI_2 . Which element could X be?
- a. Rb
 - b. P
 - c. C
 - d. Mg
20. True or False: Most metals have very high electronegativities.
21. Which of the following groups of elements are listed in increasing order of electronegativity?
- a. Ba, Sr, Ga, N, F
 - b. Ba, Sr, Ga, F, N
 - c. Sr, Ba, Ga, N, F
 - d. F, N, Ga, Sr, Ba
22. Which of the following would have the highest ionization energy?
- a. Na
 - b. Ca
 - c. Zn
 - d. F
23. The chemical name for S_2F_6 is _____.
24. As atomic number increases within the same period, atomic radius
- a. increases
 - b. decreases
 - c. remains the same
25. Which of the following properties is **not** considered to be a typical characteristic of a metal?
- a. high ionization energy
 - b. low electronegativity
 - c. high luster
 - d. good conductor of heat and electricity