

chapter 02

True / False Questions

1. Minerals are organic elements extracted from the soil by plants.

True False

2. Molecules composed of two or more atoms are called compounds.

True False

3. Hydrogen, deuterium, and tritium are three isotopes of hydrogen.

True False

4. Potassium, sodium, and chlorine are trace elements.

True False

5. Ionic bonds break apart in water more easily than covalent bonds do.

True False

6. A solution is a mixture composed of two or more substances that are physically blended but not chemically combined.

True False

7. Blood pH is approximately 7.4, which is slightly acidic.

True False

8. The high heat capacity of water makes it a very ineffective coolant.

True False

9. In an exchange reaction, covalent bonds are broken and new covalent bonds are formed.

True False

10. All the chemical reactions in which larger molecules are broken down to smaller ones are called catabolic reactions.

True False

11. The opposite of a dehydration synthesis is a hydrolysis.

True False

12. Unsaturated fatty acids have as much hydrogen as they can carry.

True False

13. A dipeptide is a molecule with two peptide bonds.

True False

14. All amino acids have both a carboxyl group and an amino group attached to a central carbon.

True False

15. ATP is the body's most important form of long-term energy storage.

True False

Multiple Choice Questions

16. The most abundant element in the human body, by weight, is

- A. nitrogen.
- B. hydrogen.
- C. carbon.
- D. oxygen.
- E. calcium.

17. Sodium has an atomic number of 11 and an atomic mass of 23. Sodium has
- A. 12 neutrons and 11 protons.
 - B. 12 protons and 11 neutrons.
 - C. 12 electrons and 11 neutrons.
 - D. 12 protons and 11 electrons.
 - E. 12 electrons and 11 protons.
18. The chemical properties of an atom are determined by its
- A. protons.
 - B. electrons.
 - C. neutrons.
 - D. protons and neutrons.
 - E. particles.
19. Sodium, which has an atomic number of 11, will react with chlorine, which has an atomic number of 17. When these two atoms react, both become stable. To become stable, sodium will _____, while chlorine will _____.
- A. accept one electron; give up one electron
 - B. give up one proton; accept one proton
 - C. share one electron with chlorine; share one electron with sodium
 - D. become an anion; become a cation
 - E. give up one electron; accept one electron
20. Consider oxygen, which has an atomic number of 8 and an atomic mass of 16. How many valence electrons does it have?
- A. 2
 - B. 4
 - C. 6
 - D. 8
 - E. 16