

TEST BANK

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Chapter 02: Chemistry of Life

Test Bank

MULTIPLE CHOICE

1. The atomic number equals the number of
 - a. Protons
 - b. Neutrons
 - c. Electrons
 - d. Protons and neutrons

ANS: A

2. The atomic weight is equal to the sum of
 - a. Neutrons
 - b. Protons and neutrons
 - c. Neutrons and electrons
 - d. Electrons

ANS: B

3. The smallest units of matter are
 - a. Molecules
 - b. Atoms
 - c. Protons
 - d. Compounds

ANS: B

4. Protons are
 - a. Located in the shells
 - b. Part of the atomic nucleus
 - c. Negatively charged
 - d. Uncharged particles

ANS: B

5. Particles of an atom located in the outermost shell and available for chemical bonding are called
- Valence electrons
 - Isotopes
 - Excess electrons
 - Neutrons

ANS: A

6. Isotopes are atoms with
- The same number of electrons and protons
 - Different numbers of protons and electrons
 - The same numbers of protons but a different number of neutrons
 - Different numbers of electrons

ANS: C

7. A chemical bond in which electrons are equally shared is a(n)
- Ionic bond
 - Polar covalent bond
 - Nonpolar covalent bond
 - Hydrogen bond

ANS: C

8. The transfer of electrons in a chemical bond represents a(n)
- Ionic bond
 - Polar covalent bond
 - Nonpolar covalent bond
 - Hydrogen bond

ANS: A

9. The bond of oxygen and hydrogen between water molecules is a(n)
- Ionic bond
 - Polar covalent bond
 - Nonpolar covalent bond
 - Hydrogen bond

ANS: D

10. The isotope deuterium has
- One proton
 - One proton and one neutron
 - One proton and two neutrons
 - One proton and three neutrons

ANS: B

11. After filling the first shell, the outermost shell of an atom can hold up to _____ electrons.
- 2
 - 6
 - 8
 - 10

ANS: C

12. The bond between sodium and chlorine atoms in sodium chloride is a(n)
- Hydrogen bond
 - Ionic bond
 - Polar covalent bond
 - Nonpolar covalent bond

ANS: B

13. Sucrose is composed of
- Glucose and galactose
 - Glucose and fructose
 - Fructose and maltose
 - Glucose and maltose

ANS: B

14. The unit molecules (monomers) of carbohydrates are
- Monosaccharides
 - Amino acids
 - Nucleic acids
 - Fatty acids

ANS: A

15. The bond between amino acids is a(n)
- a. Ionic bond
 - b. Peptide bond
 - c. Hydrogen bond
 - d. Covalent bond

ANS: B

16. Glucose and fructose are examples of
- a. Monosaccharides
 - b. Disaccharides
 - c. Polysaccharides
 - d. Lipids

ANS: A

17. Two glucose molecules form
- a. Galactose
 - b. Lactose
 - c. Maltose
 - d. Fructose

ANS: C

18. Starch is an example of a
- a. Monosaccharide
 - b. Polysaccharide
 - c. Peptide
 - d. Protein

ANS: B

19. Cytosine always undergoes complementary base pairing with
- a. Adenine
 - b. Guanine
 - c. Thymine
 - d. Uracil

ANS: B

20. The RNA nucleotide base that pairs with adenine of DNA is
- Cytosine
 - Guanine
 - Thymine
 - Uracil

ANS: D

COMPLETION

1. Neutrons are _____ charged particles.

ANS: Not

2. An atom with the same number of protons but a different number of neutrons is called a(n) _____.

ANS: Isotope

3. A positively charged ion is a(n) _____.

ANS: Cation

4. The breakdown of large molecules into smaller ones in the presence of water is called _____.

ANS: Hydrolysis

5. Molecules that can absorb hydrogen ions and not change the pH of the substance are _____.

ANS: Buffers

6. The formation of polymers from simpler substances is referred to as _____.

ANS: Synthesis

7. When the solute concentration outside a cell is the same as the concentration inside the cell, the solution is called _____.

ANS: Isotonic

8. The monomers of triglycerides are _____ and fatty acids.

ANS: Glycerol

9. Lactose is composed of glucose and _____.

ANS: Galactose

10. Chemically, ATP is a(n) _____.

ANS: Nucleic acid

MATCHING

Match the description below with the correct item from this list.

- a. Redox
- b. Electron
- c. Neutron
- d. Acid
- e. Base
- f. Salt
- g. Glucose
- h. Protein
- i. Polysaccharide
- j. Nucleic acid
- k. Lipid
- l. Tritium

1. Radioactive isotope
2. Negatively charged particle
3. Reduction–oxidation reactions
4. Hydrogen ion donor
5. Ammonium chloride
6. Monomer
7. Cellulose
8. Particle with no charge
9. Prostaglandin
10. Amino acid chain

1. ANS: L

2. ANS: B
3. ANS: A
4. ANS: D
5. ANS: F
6. ANS: G
7. ANS: I
8. ANS: C
9. ANS: K
10. ANS: H