

Date _____ Class _____ Name _____

Unit 2 Chemistry Test A

Multiple choice: Place your choice in the correct space on the scantron.

1. Enzymes are found in household detergents. Many manufacturers claim they will help get rid of grease, making your clothes cleaner looking. Which of the following statements is true concerning enzymes that may suggest why manufacturers use them in their products?
 - a). One type of enzyme can work on all types of chemicals
 - b). Enzymes are specific as far as what they can work on
 - c). All enzymes work on dirt and grease
 - d). Enzymes cannot be used over and over again

2. All the following chemical reactions involve dehydration synthesis Except
 - a). the formation of a disaccharide
 - b). digestion of a polysaccharide
 - c). the formation of a fat
 - d). the production of a polypeptide
 - e). the production of a complex sugar.

3. All of the following functions of fats are true Except
 - a). most fats consist of glycerol and three fatty acids
 - b). they are used for the protection of vital organs
 - c). most saturated fats are solid at room temperature
 - d). saturated fats have many double bonds between their carbons

4. Which of the following statements is true?
 - a). Proteins are made of amino acids held together by peptide bonds.
 - b). A polysaccharide is a complex lipid used for storage.
 - c). Steroids are complex proteins needed to control the body's chemistry.
 - d). Nucleic acids contain glucose, phosphate, and bases.

5. Which of the following terms includes all the others?
 - a). glucose
 - b). maltose
 - c). sucrose
 - d). carbohydrate

6. If an enzyme fails to carry out its function, which of the following statements would best explain why?
 - a). The substrate did not exactly fit into the active site.
 - b). An allosteric activator blocked the reaction from taking place.
 - c). There was too much substrate to be reacted with
 - d). The enzyme lowered the activation rate of the reaction.

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7. An enzyme speeds up a chemical reaction by
 - a). Changing the shape of the molecules of the reaction
 - b). Adds energy to the reaction
 - c). Lowering the activation energy of the reaction
 - d). Making the substrate molecule more stable.

8. All the following are true concerning enzymes Except
 - a). High temperatures may destroy enzymes
 - b). Enzymes can be used over and over again
 - c). Enzymes are specific
 - d). Enzymes can operate only in living cells.

9. Sulfur has an atomic number of 32. How many protons does sulfur have?
 - a). 16
 - b). 19
 - c). 32
 - d). 35

10. What is the number of electron pairs carbon shares with oxygen in a molecule of carbon dioxide?
 - a). 1
 - b). 2
 - c). 3
 - d). 4

11. Which functional group represents the carboxyl group?
 - a). -OH
 - b). -C=O
 - c). -COOH
 - d). -SH

12. Amino acids and fatty acids contain a special end group called the
 - a). Amino group
 - b). Hydroxide group
 - c). Carboxyl group
 - d). Hydrogen ions

13. Of the elements essential to life
 - a). Carbon
 - b). Oxygen
 - c). Hydrogen
 - d). Nitrogen, is the central element in a living organisms organic compounds.

14. An ion is an atom that contains
 - a). more protons than electrons
 - b). more neutrons than electrons
 - c). more electrons than protons
 - d). both a and c

15. Catalase is an enzyme that will help break down hydrogen peroxide into
 - a). Carbon dioxide and water
 - b). Oxygen and carbon dioxide
 - c). Oxygen and water
 - d). just water

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Answer questions 16-18 using the chart below.

Substance	pH
hydrochloric acid	1.0
sulfuric acid	1.2
tomatoes	4.2
rain water	6.2
pure water	7.0
sea water	8.5
ammonium chloride	11.1
sodium hydroxide	13.0

16. The substance closest to being neutral is a). rain water b). sea water
c).tomatoes d). ammonium chloride
17. Hydrochloric acid is a). 6 b). 10,000 c). 1,000 d). 1,000,000 times as strong as pure water.
18. All the following are acids EXCEPT: a). rain water b). tomatoes c). sea water
d). HCl
19. Which one of the following compounds is an organic compound?
a). H₂O b). NaCl c).NH₃ d).CH₄
20. In living organisms, lipids are used for a). energy storage b). movement
c). reproduction d). making proteins

Fill in the blanks with the correct term or terms.

21. The _____ are the monomers of nucleic acids.
22. The bases _____ and _____ can combine with the base thymine.
23. The _____ is the characteristic shape of a DNA molecule.
24. In a chemical reaction the products are always found on the _____ of the chemical formula.
25. A (n) _____ bond is formed by the sharing of electrons.