

Biology Shootout 05-06
Test 1

1. Chemical signaling in the brain requires ___ bonds
 - a. strong
 - b. ionic
 - c. polar covalent
 - d. weak
 - e. metallic
2. The pH of human blood would typically be closest to
 - a. 2
 - b. 4
 - c. 5
 - d. 7
 - e. 10
3. Which of the following is characteristic of hydrocarbons?
 - a. found commonly in living organisms
 - b. composed of hydrogen, carbon and oxygen
 - c. found in fatty acid tails
 - d. have only single bonds
 - e. all of these are characteristic
4. Sugars contain functional groups consisting of a carbon double-bonded to an oxygen atom. This is a/an ___ group.
 - a. hydroxyl
 - b. carbonyl
 - c. carboxyl
 - d. amino
 - e. sulfhydryl
5. Which of the following is NOT true of monosaccharides?
 - a. they usually have a formula that is a multiple of CH_2O
 - b. they combine to form disaccharides
 - c. they typically have ring structures
 - d. the most common monosaccharide is sucrose
 - e. all of these are true of monosaccharides
6. Which of the following is a protein with quaternary structure?
 - a. hemoglobin
 - b. estrogen
 - c. lysozymes
 - d. collagen
 - e. a & d
7. Endergonic reactions are characterized by
 - a. being spontaneous
 - b. absorbing free energy from its surroundings
 - c. respiration
 - d. fermentation
 - e. all of these
8. Pepsin is a protein found in the human stomach. What would you expect its optimal pH to be?
 - a. 7
 - b. 2
 - c. 6
 - d. 8
 - e. 10
9. The detailed study of the surface of a virus could best be done with a/an
 - a. compound microscope
 - b. stereoscope
 - c. scanning electron microscope
 - d. transmission electron microscope
 - e. ultracentrifuge
10. Which of the following is NOT found in the nucleus of the cell?
 - a. chlorophyll
 - b. proteins
 - c. chromatin
 - d. nucleolus
 - e. nucleic acids

11. Proteins that are loosely bound as appendages to the plasma membrane are
- peripheral proteins
 - integral proteins
 - transport proteins
 - transfer proteins
 - appendicular proteins
12. The process by which particles pass through a cell membrane via an integral protein and along the concentration gradient is
- simple diffusion
 - facilitated diffusion
 - osmosis
 - endocytosis
 - active transport
13. Proteins found as a part of the electron transport chain in the mitochondria are often
- collagens
 - hemoglobins
 - cytochromes
 - phytochromes
 - nucleases
14. Which of the following is a by-product of lactic acid fermentation?
- carbon dioxide
 - lactate
 - pyruvic acid
 - ethanol
 - a & b
15. The process of incorporation carbon from carbon dioxide into organic compounds during the Calvin cycle is
- photophosphorylation
 - hydrolysis
 - oxidative phosphorylation
 - carbon dissociation
 - carbon fixation
16. Which of the following is true of photorespiration?
- Carbon dioxide is produced
 - photosynthesis efficiency is reduced
 - ATP is not generated
 - it occurs in plants
 - all of these are true
17. G-protein-linked receptors
- are active in cell communication
 - are found in the plasma membrane
 - active G proteins
 - all of these are correct
 - none of these are correct
18. Which of the following is needed to amplify a cell's signal?
- enzymes
 - G proteins
 - carbon dioxide
 - oxygen
 - c & d
19. The division of a cell's cytoplasm is
- mitosis
 - anaphase
 - telophase
 - meiosis
 - Cytokinesis
20. The spread of cancer cells beyond their original site is
- contact inhibition
 - noncontact inhibition
 - metastasis
 - kinesis
 - cytotaxis