

Bio1010 Fall 2015 Practice Exam 2 Questions

Multiple Choice (75 pts)

1. ATP is used to store energy around the cell. What kind of energy does it contain?
 1. Light.
 2. Heat.
 3. Kinetic.
 4. Chemical.
 5. Potential.

2. Complementary base pairing is important for DNA replication. If a sequence is CGACCTTGGACA on one strand, what will be the sequence on the opposite strand?
 1. TGTCCAAGGTCG
 2. CGTGGAACCTGT
 3. ACAGGTTCCAGC
 4. GCTGGAACCTGT
 5. CGACCTTGGACA

3. Lipase is an enzyme that breaks down lipids. Which of the following will not serve as a substrate for lipase?
 1. Glucose.
 2. Protein.
 3. Oils.
 4. 1 and 2
 5. None of the above.

4. When you eat a granola bar then go for a run, the energy from your food is:
 1. Converted into kinetic energy
 2. Used up as kinetic energy
 3. Converted into heat energy
 4. Both 2 and 3
 5. Both 1 and 3

5. Proteins are made in the _____. Proteins are modified in the _____.
 1. Nucleus; Golgi apparatus
 2. Golgi apparatus; Nucleus
 3. Endoplasmic reticulum; Nucleus
 4. Endoplasmic reticulum; Golgi apparatus
 5. Golgi apparatus; Endoplasmic reticulum

6. In eukaryotes, DNA is packaged into chromosomes which contain
 1. DNA and cell membranes.
 2. DNA.
 3. DNA and proteins.
 4. DNA and lipids.
 5. DNA and sugars.

7. When you put a gummi worm in a glass of water, what will happen?
 1. The sugar in the candy will move into the water.
 2. The water in the candy will move into the glass, causing the candy to swell.
 3. The water in the glass will move into the candy, causing it to swell.
 4. The water in the glass will move into the candy, causing it to shrink.
 5. Any sugar in the water will move into the candy.

8. Glycolysis takes place
 1. Outside the cell.
 2. Inside mitochondria.
 3. Inside chloroplasts.
 4. Inside the cytoplasm.
 5. Inside the nucleus.

9. DNA replication is semiconservative. This means:
 1. Each new DNA molecule contains two newly formed strands of DNA
 2. Each new DNA molecule contains one newly formed strand of DNA and one original strand of DNA
 3. Each new DNA molecule contains a mixture of old and new nucleotides on both strands
 4. DNA only replicates in half of the cells in the body
 5. None of the above

10. Active transport requires energy. What is the energy molecule that powers this cellular process?
 1. NADH.
 2. Sunlight.
 3. ATP.
 4. Starch.
 5. Enzymes.

11. What cellular process starts with glucose and oxygen as inputs?
 1. Fermentation
 2. Cellular respiration
 3. Photosynthesis
 4. DNA replication
 5. Facilitated diffusion

12. The energy in our food is contained within:
 1. The covalent bonds linking the atoms of macromolecules.
 2. The protons of carbon atoms.
 3. The neutrons of carbon atoms.
 4. The protons of hydrogen atoms.
 5. The neutrons of hydrogen atoms.

13. Reduction is when a molecule
 1. Gains electrons.
 2. Loses electrons.
 3. Makes new electrons.
 4. Divides into two new molecules.
 5. Splits its electrons into two new molecules.

14. Vitamins and minerals are
 1. Essential macronutrients.
 2. Usually organic molecules and elements.
 3. Important for the function of enzymes.
 4. Derived from the earth.
 5. 2 and 3.

15. The cell cycle is when
 1. The cell goes through the process of replicating its DNA and splitting into 2 new cells.
 2. The cell goes through the process of replicating its DNA.
 3. The cell goes through the process of breaking down sugar.
 4. The cell goes through the process of splitting into 2 new cells.
 5. The cell goes through the process of making a new organism.

16. In which organelle is the majority of ATP synthesized?
 1. Ribosomes.
 2. Chloroplasts.
 3. Mitochondria.
 4. Nucleus.
 5. Endoplasmic reticulum.