

# Sample Questions for Biotechnology Test

- 1. What is the purpose of bacterial endospores?**
  - a. Allow the bacterium to make hundreds of "seeds" to spread on the wind.
  - b. Help the bacterium to differentiate into faster growing stages of bacteria.
  - c. Allow the bacterium to survive the absence of oxygen.
  - d. Allow the bacterium to survive extended periods of heat or dryness.
- 2. The backbone of the DNA structure is made up of...**
  - a. Alternating phosphates and sugar molecules
  - b. Nucleotides
  - c. Alternating bases and sugars
  - d. Alternating phosphates and bases
- 3. DNA replication results in two DNA molecules,**
  - a. each one with two original strands
  - b. each one with two new strands
  - c. each one with one new strand and one original strand
  - d. one with two new strands and the other with two original strands
- 4. Translation is crucial to the process of making proteins. Which statement best describes what takes place during translation?**
  - a. A copy of chromosomal DNA is created
  - b. Information in mRNA is converted into a sequence of amino acids in a protein
  - c. A RNA copy of a DNA strand is made.
  - d. Instructions from DNA in the nucleus are brought to the cytoplasm
- 5. The function of tRNA is to**
  - a. provide a site for polypeptide synthesis
  - b. transport amino acids to the ribosome
  - c. travel to the ribosome to direct the assembly of polypeptides
  - d. transcribe DNA
  - e. translate DNA
- 6. Where does the light-independent reaction occur?**
  - a. Stroma
  - b. Mitochondria
  - c. Thylakoid
- 7. Which of the following is NOT a product of the light reactions?**
  - a. ATP
  - b. NADPH
  - c. Oxygen
  - d. Glucose
- 8. In order for a recessive X-linked trait to appear in a female, she must inherit a recessive allele from**
  - a. neither parent.
  - b. Both parents
  - c. her father only.
  - d. her mother only.
- 9. The set of all genes necessary to specify an organism's complete list of characteristics is known as the**
  - a. Mendelian factor
  - b. Genome

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- c. Linkage group
  - d. None of the above
- 10. PCR requires all of the following EXCEPT**
- a. Primers
  - b. DNA ligase
  - c. DNA polymerase
  - d. DNA of interest
  - e. Deoxyribonucleotides
- 11. The type of cell division in which each daughter cell receives the same number of chromosomes the parent cell had is\_\_\_\_\_.**
- a. mitosis
  - b. meiosis
  - c. spermatogenesis
  - d. oogenesis
- 12. Me/iosis is a type of cell division that produces:**
- a. Zygotes
  - b. chromosomes
  - c. DNA
  - d. Gametes
- 13. Which of the following is not a stage of aerobic respiration?**
- a. glycolysis
  - b. pyruvate oxidation
  - c. the Krebs cycle
  - d. electron transport chain
- 14. The organelle functions to package and deliver proteins:**
- a. lysosome
  - b. endoplasmic reticulum
  - c. mitochondrion
  - d. golgi apparatus
- 15. A type of substitution in which one amino acid changes is called**
- a. Nonsense
  - b. Missense
  - c. Silent
  - d. all of the above