BIOLOGICAL EVOLUTION QUIZ

Part I – Multiple Choice

1. Which statement best describes biological evolution?

A. A change in inherited characteristics of populations over generations
B. A change that occurs only during an organism's lifetime
C. The process by which an individual chooses useful traits
D. The development of identical traits in every organism

2. What is natural selection?

A. The inheritance of traits acquired during an individual's lifetime
B. The process in which inherited traits affecting survival or reproduction become more or less common
C. The process that creates new species in a single generation
D. The random production of identical organisms

3. Which observation provides evidence for common ancestry among different species?

A. Homologous structures with similar underlying anatomy
B. Different species always living in exactly the same habitat
C. All organisms having exactly the same DNA sequence
D. Organisms never changing over time

4. What is a fossil?

A. A newly formed mutation in living DNA
B. A modern organism with no evolutionary history
C. A preserved remain or trace of an ancient organism
D. A trait that an organism learns during development

5. A population of insects contains individuals with different levels of resistance to a pesticide. After repeated pesticide use, resistant insects leave more offspring. Over many generations, resistance becomes more common. Which process best explains this change?

A. Natural selection
B. Genetic drift only
C. Artificial selection by the insects
D. Acquired inheritance

6. What is speciation?

A. The formation of new species from existing populations
B. The growth of an individual organism
C. The movement of an organism from one habitat to another
D. The disappearance of every organism in a population

Part II – Select All That Apply

Directions: Select ALL answers that are correct.

7. Which factors can contribute to genetic variation in a population?

A. Mutation
B. Genetic recombination during sexual reproduction
C. Gene flow between populations
D. An organism changing its behavior during its lifetime

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8. Which statements describe ways that populations can become genetically different from one another?

A. Different mutations can arise in different populations.
B. Natural selection can favor different traits in different environments.
C. Genetic drift can change allele frequencies differently by chance.
D. Every population must have exactly the same allele frequencies.

Part III – True or False

Directions: Write **T** or **F** on the line.

9. _____ Individuals evolve genetically during their own lifetimes as a result of natural selection.

10. _____ Genetic drift is a random change in allele frequencies that can have a stronger effect in small populations.

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