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Fall 2021 - **Week 6**

Fall 2021 - EE BIOL184-1 - SEARS

Started on Wednesday, 13 October 2021, 3:51 PM PDT**State** Finished**Completed on** Wednesday, 13 October 2021, 4:00 PM PDT**Time taken** 9 mins 43 secs**Grade** 6.25 out of 6.25 (100%)**Question 1**

Correct

1.25 points out of 1.25

Which of the following statements is most supported by the existence of vestigial traits (e.g., pelvises of whales) (please pick the best answer)? For the purposes of this class, a vestigial trait is defined as **an anatomical feature that no longer seems to have a purpose in the current form of an organism of the given species**. Often, these vestigial structures were organs that performed some important functions in the organism at one point in the past.

- a. Evolution can occur rapidly when selection pressures are strong
- b. Not every trait or feature is an adaptation
- c. Natural selection is the only mechanism for evolutionary change
- d. Evolution works toward an eventual improvement



The correct answer is:

Not every trait or feature is an adaptation

Question 2

Correct

1.25 points out of 1.25

Different animal groups have repeatedly converged on similar forms, such as the marsupial saber-toothed cat and the placental saber-toothed cat. Which of the following statements is most supported by the repeated evolutionary convergence of animals on similar forms (please pick the best answer)?

- a. Evolution is a process that occurs within populations over generations
- b. Drift is an important evolutionary process
- c. Evolution by natural selection is not a random process
- d. Each evolutionary change has to improve fitness



The correct answer is:

Evolution by natural selection is not a random process

Question 3

Correct

1.25 points out of 1.25

Which of the following concepts was central to the "Modern Synthesis" of the early 20th-century?

- a. Nature versus nurture
- b. Phylogeny recapitulates ontogeny
- c. Epigenetic change
- d. Mendelian inheritance



The correct answer is:

Mendelian inheritance

Question 4

Correct

1.25 points out of 1.25

Which of the following scientists coined the term "Modern Synthesis"?

- a. Huxley
- b. De Beer
- c. Mayr
- d. Waddington



The correct answer is:

Huxley


Question 5

Correct

1.25 points out of 1.25

Waddington's critical experiment in which he

During the online lecture on the Modern Synthesis, a critical experiment by Waddington was discussed. In this experiment, Waddington exposed *Drosophila* to ether. Which of the following was a result of this experiment?

- a. When embryonic flies were exposed to ether, they developed two heads
- b. Fly development proved insensitive (i.e., it could not be altered) to environmental factors
- c. After 20 generations of exposure to ether, flies would form a mutant phenotype without being exposed to any ether 
- d. The "grandchildren" of flies exposed to ether showed a marked preference for the ether smell

The correct answer is:

After 20 generations of exposure to ether, flies would form a mutant phenotype without being exposed to any ether

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