

Name _____

AP BIOLOGY EXAM FIVE

FREE RESPONSE QUESTION

Charles Darwin proposed that evolution by natural selection was the basis for the differences that he saw in similar organisms as he traveled and collected specimens in South America and on the Galapagos Islands.

- (a) **Explain** the theory of evolution by natural selection as presented by Darwin.
- (b) Each of the following relates to an aspect of evolution by natural selection. **Explain** three of the following.
 - (i) Convergent evolution and the similarities among species (ecological equivalents) in a particular biome (e.g., tundra, taiga, etc.)
 - (ii) Natural selection and the formation of insecticide-resistant insects or antibiotic-resistant bacteria
 - (iii) Speciation and isolation
 - (iv) Natural selection and behavior such as kinesis, fixed-action-pattern, dominance hierarchy, etc.
 - (v) Natural selection and heterozygote advantage