EXAM 3-A. BIO 213. SPRING 2003

1. _____ believed that organisms are already perfect because the world is ideal and eternal. His ideas helped to fuel resistance to the theory of evolution.
a) Aristotle b) Cuvier c) Plato d) Linnaeus e) none of them

2. The smallest unit that can evolve through natural selection is the:
a) individual b) population c) species d) genus

3. _____'s theory that geological processes are continuous and gradual helped clear the way for evolutionary thought.
a) Lamarck b) Cuvier c) Lyell d) Hutton e) none of them

4. Darwin's field research across Asia, where he saw differences between the Asian and European biota, helped him developed his ideas about evolution.
a) True b) False

5. A population of small rabbits called teporingos (*Romerolagus diazi*), only found in the Transvolcanic Belt region of Mexico, recently suffered a drastic reduction in its numbers due to uncontrolled fires within its habitat. The most likely mechanism leading to evolution in the next few generations is:
a) natural selection b) gene flow c) genetic drift d) mutation

6. Briefly mention one of the three inferences Darwin used to support his theory of evolution. For the inference chosen, mention the specific observations that Darwin used to support his reasoning.

7. All the choices below provide evidence that diversity of life is a result of evolution, except
a) inheritance of acquired characters b) anatomical homologies
c) convergence d) fossil record

8. The only theoretical aspect about Darwin's view of life is the mechanism of evolution.
a) True b) False

9. The shuffling of alleles due to meiosis and random fertilization has no effect on the overall gene pool of a population.
a) True b) False

10. The following are all major points developed by Darwin in the "Origin of Species", except:
a) natural selection as a mechanism for evolution b) inheritance of acquired characteristics c) descent with modification

11. A population under _____ is a non-evolving population.
a) frequency-dependent selection b) the founder effect c) Hardy-Weinberg equilibrium

12. A previously isolated population of the volcano barnacle (*Tetraclita rubescens*) is currently receiving immigrants from other populations of the same species. The most likely mechanism of evolution in these populations is:
a) genetic drift b) gene flow c) random mating d) natural selection

13. Natural selection adapts a population to its environment by acting directly on the:
a) individual b) genotype c) alleles d) population

14. Individuals in a population of swallows (*Hirundo rustica*) have highly symmetrical (equal length) tail feathers because asymmetric tail feathers hinder their flying ability. The survivorship of the extreme asymmetrical phenotypes is low. This is an example of
a) diversifying selection b) stabilizing selection c) directional selection

15. All of these processes generate genetic variation within a population except:
a) mutation b) sexual recombination c) natural selection