**Evolution Unit Assignment 3**

Quiz Instructions

Use the textbook and notes to answer the following questions.

Question 1 1 pts

This is the evolution in which species that once were similar to an an ancestral species diverge; occurs when populations change as they adapt to different environmental conditions.

divergent

directional selection

convergent

disruptive selection

Question 2 1 pts

Structures that do not have a common evolutionary origin but are similar in function.

analogous structures

Vestigial structures

embryological structures

Homologous structure

Question 3 1 pts

This occurs when formerly interbreeding organisms can no longer produce fertile offspring due to an incompatibility of their genetic material or by differences in mating behavior

polyploid

geographic isolation

allelic frequency

reproductive isolation

Question 4 1 pts

This occurs whenever a physical barrier divides a population, which results in individuals no longer being able to mate: can lead to the formation of a new species.

geographic isolation

gradualism

reproductive isolation

punctuated equilibrium

Question 5 1 pts

Earliest stage of growth and development of both plants and animals; differences and similarities among embryos can provide evidence of evolution

Natural Selection

punctuated equilibrium

embryo

gradualism

Question 6 1 pts

These are structures with common evolutionary origins; can be similar in arrangement, in function, or both.

Vestigial structures

analogous structures

embryological structures

Homologous structure

Question 7 1 pts

mechanism for change in populations; occurs when organisms with favorable variations survive, reproduce, and pass their variations to the next generation.

Natural Selection

artificial selection

disruptive selection

Sexual selection

Question 8 1 pts

Natural selection that favors individuals with either extreme of a trait; tends to eliminate intermediate phenotypes.

artificial selection

stabilizing selection

directional selection

disruptive selection

Question 9 1 pts

Natural selection that favors one of the extreme variations of a trait; can lead to rapid evolution in a population.

stabilizing selection

artificial selection

directional selection

disruptive selection

Question 10 1 pts

evolution in which distantly related organisms evolve similar traits; occurs when unrelated species occupy similar environments.

Natural Selection

divergent evolution

convergent evolution

adaptive radiation

Question 11 1 pts

natural selection that favors average individuals in a population; results in a decline in population variation.

directional selection

artificial selection

stabilizing selection

disruptive selection

Question 12 1 pts

A structure in a present-day organism that no longer serves its natural purpose, but was probably useful to an ancestor; provides evidence for evolution

analogous structures

Homologous structure

embryological structures

vestigial structures

Question 13 1 pts

The form and structure of animals and plants.

polyploidy

morphology

reproductive isolation

vestigial structures

Question 14 1 pts

When two populations cannot reproduce and create viable offspring.

reproductive isolation

behavioral isolation

geographic isolation

temporal isolation

Question 15 1 pts

Which of the following demonstrates how morphology changes can increase species numbers

In Japan, Monkeys have learned to use hot springs on cold days to stay warm. With this change of behavior species can survive and reproduce.

A bird called a lamerguire drops bones onto rocks from a high altitude to crack open the bones and get to the marrow. With this change of behavior the bird can get food for its young.

A population of trout spawns in the fall while other populations spawn in the spring

A male peacock has an elaborate fan of feathers to impress the female peahens and encourage them to mate. The offspring will also have the traits of this elaborate fan of feathers.

Question 16 1 pts

Which of the following does NOT demonstrate how morphology changes can lead to changes in heritable genetic variation of individuals due to mutation and sexual reproduction.

A jaguar evolves larger jaws and teeth which allows it to target more species of prey and enable it have a higher kill success rate.

A panda bear has evolved an extra “thumb” on its hands by feeding on one food source.

Many pathogenic bacteria have developed antibiotic resistance due to random mutation in their genetic code which allow them to survive and reproduce.

An island is formed from a volcanic event producing new habitat for turtles

Question 17 1 pts

Which of the following demonstrates how morphology changes can lead to increased competition for limited resources?

In Japan, Monkeys have learned to use hot springs on cold days to stay warm. With this change of behavior species can survive and reproduce.

The alpha wolf of the pack is given the best pieces of food from a kill. The alpha wolf is typically the largest and strongest wolf in the pack. This leaves less food for the lower individuals in the social hierarchy.

A panda bear has evolved a extra “thumb” on its hands by only eating bamboo.

Salmon swim hundreds of miles to return back to their birthplace river system.

Question 18 1 pts

Which of the following demonstrates how morphology changes can lead to natural selection?

An island is formed from a volcanic event producing new habitat for turtles. This new habitat may allow more offspring to be born.

A cow is specifically bred as she produces more milk than all other cows. This will potentially produce more cows which can produce more milk than a typical cow.

A cheetah that is faster than the other predators on the Savannah is able to make more kills. They will be able to feed their young which will have these “fast” genes.

A population of brown trout spawn in the fall rather than in the spring. This can allow future offspring to spawn in the fall season as well.

Question 19 1 pts

This occurs when species must compete for a limited resource. If there is less food/resources, this increases?

morphology

reclamation

competition

speciation

Question 20 1 pts

Which of the following demonstrates how competition for limited resources can increase species numbers?

Whales and sharks have developed tail fins which allow them to use less energy as they move through the water

Nine-banded Armadillos always give birth in identical quadruplets. This reproductive pattern allows them to pass on similar traits to their offspring.

The Gila monster uses venom to protect itself and prepare its food. This use of venom allows it to be feared.

The brook trout is more aggressive and faster than the native cutthroat trout in Idaho. This allows the brook trout to obtain more food and reproduce, better than the cutthroat.

Question 21 1 pts

Which of the following demonstrates how competition for limited resources can lead to changes in heritable genetic variation of individuals due to mutation and sexual reproduction.

A jaguar evolves larger jaws and teeth which allows it to target more species of prey and have a higher kill success rate than other predators in the ecosystem. It passes on its genes to the offspring which gives them the same trait.

A scientist inserts a “glow in the dark” gene into a cat embryo.

A panda bear has evolved a extra “thumb” on its hands by only eating bamboo.

Many bacteria have developed antibiotic resistance due to random mutations in the gene pool. These mutations allow them to survive and reproduce.

Question 22 1 pts

Which of the following demonstrates how competition for limited resources can lead to increased competition for limited resources?

Some plants, such as the Venus Fly Trap, are carnivorous. Usually plants obtain nitrogen, a chemical element vital to a plant’s survival, from the soil through their roots. These plants, however, usually grow in areas where soil is lacking in nitrogen. They use the nitrogen from insects they catch.

Whales and sharks have developed tail fins which allow them to use less energy as they move through the water

Penguins are birds that cannot fly, which does not seem to make them good candidates for survival. However, in place of flying, penguins have adapted to be master swimmers, which benefits them greatly in finding food and escaping predators.

The alpha wolf of the pack is given the best pieces of food from a kill. This leaves less food for the lower individuals in the social hierarchy.

Question 23 1 pts

Which of the following demonstrates how competition for limited resources can lead to natural selection?

Male peacocks compete for female peahens. Males with the most elaborate displays will pass those genes (elaborate displays) to the offspring.

A polar bear can smell and track a seal from miles away.

A population of brown trout spawn in the fall rather than in the spring like many other populations.

Geographic isolation of a population of deer on an island can lead to larger deer sizes.

Question 24 1 pts

The pattern of evolution in which species that once were similar to an ancestral species diverge or become increasingly distinct. Example: Darwin’s finches, Honeycreepers in Hawaii.

Competition

Convergent Evolution

Divergent Evolution

Morphology