

Review Test Submission: Evolution_Exam

E1 F21

User [REDACTED]
Course 2109_INTRODUCTION TO BIOLOGY [2109_BIOL_1010_04]
Test Evolution_Exam
Started 9/23/21 10:03 AM
Submitted 9/23/21 10:32 AM
Status Completed
Attempt Score 82 out of 100 points
Time Elapsed 29 minutes out of 1 hour and 15 minutes
Results Displayed All Answers, Submitted Answers, Correct Answers

Question 1

2 out of 2 points

Coevolution:

Selected ☒

Answer: is the evolution of two populations of different species in response to selection pressures that individuals from the two populations place on each other.

Answers:

occurs between a population and the physical environment in which the population lives.

is the evolution of individuals within a population in response to selection pressure from other individuals in the population.

☒

is the evolution of two populations of different species in response to selection pressures that individuals from the two populations place on each other.

is a special type of evolution that differs from Darwinian evolution.

Question 2

2 out of 2 points

Which of the following is not a quality of binocular vision

Selected Answer: ☒ Large field of view

Answers:

Excellent focus

Depth perception

☒ Large field of view

Advantageous when navigating in trees

Question 3

1 out of 1 points

A "ring species" is an example of parapatric speciation.

Selected Answer: ☒ TrueAnswers: ☒ True
☐ False**Question 4**

2 out of 2 points

How does the Transiting Exoplanet Survey Satellite locate planets?

Selected Answer: ☒ watch and keep track of the light of a starAnswers: ☐ measures the elemental makeup of suspected areas in space
☐ capture light from planets
☒ watch and keep track of the light of a star
☐ shoots a laser at a suspected location and observe the reflection**Question 5**

2 out of 2 points

Male bower birds build large, elaborate structures up to six feet high that they decorate with flowers, colored pebbles, and shiny objects. During the breeding season they use these structures as stages to display and court females. What process could drive the evolution of these remarkable bowers?

Selected Answer: ☒ Sexual selectionAnswers: ☐ Stabilizing selection
☐ Disruptive selection
☐ Fluctuating directional selection
☒ Sexual selection
☐ All of the choices are false

2 out of 2 points

Question 6

Which best describes Ida (*Darwinius masillae*)?

Selected Answer:

☒ the possible missing link between early primates and modern looking primates

Answers:

☐ mated with humans, lived recently (200,000 – 40,000 years ago)

☒ the possible missing link between early primates and modern looking primates

☐ first upright walking ancestor (lived 3.2 MYA)

☐ handy man- first to make and use stone tools

Question 7

0 out of 1 points

In both protocells and cellular life RNA is used by ribosomes to construct proteins.

Selected Answer: ☒ True

Answers: ☐ True

☒ False

Question 8

0 out of 2 points

How did scientists change the behavior of the male polygamous Montane Vole to become monogamous?

Selected Answer: ☒ none of the answers are correct

Answer:

Answers:

☒ transferred to the male polygamous vole a gene for a hormone that caused monogamy

☐ none of the answers are correct

☐ put two male polygamous voles together with one female monogamous vole for them to compete for sexual selection

☐ put a male polygamous vole with a single female vole in isolation until they mated

☐ gave the male polygamous vole vitamins that changed its behavior

Question 9

2 out of 2 points

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A population of grasshoppers in the Kansas prairie has two color phenotypes, green and brown. Typically, the prairie receives enough water to maintain healthy, green grass. Assume a bird that eats grasshoppers moves into the prairie. How will this affect natural selection of the grasshoppers?

Selected



Answer:

The brown phenotype should be more easily seen by the predator and decrease in frequency.

Answers:



The brown phenotype should be more easily seen by the predator and decrease in frequency.

The green phenotype should be more easily seen by the predator and decrease in frequency.

Predation will cause the brown grasshoppers to mutate into green grasshoppers.

Both green and brown grasshoppers should be eaten and their relative numbers should remain constant.

Question 10

2 out of 2 points

Which of the following is the first distinctively hominid trait to appear in the fossil record?

Selected Answer: ☒ upright walking (bipedalism)

Answers:

small teeth and relatively delicate jaws

sophisticated stone tools

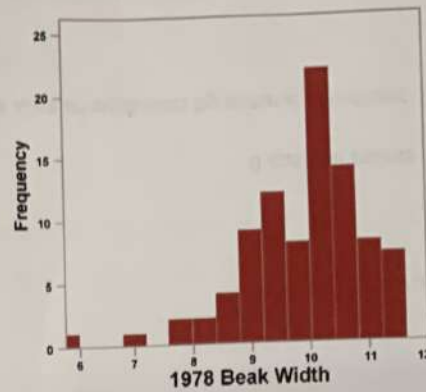
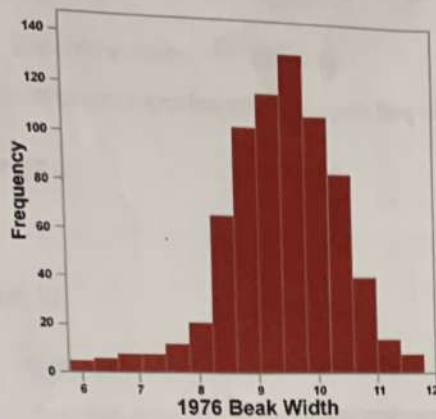
increased brain size

☒ upright walking (bipedalism)

Question 11

2 out of 2 points

The figures are histograms of the distribution of *Geospiza fortis* beak widths observed by Rosemary & Peter Grant in 1976 and in 1978 on Daphne Major Island. Which of the following statements either **can be inferred** or is **supported by the data presented**?



Selected



Answer:

The *G. fortis* on this island is evolving toward having larger beak sizes.

Answers:

The total population of *G. fortis* on the island increased between 1976 and 1978.



The *G. fortis* on this island is evolving toward having larger beak sizes.

In comparison to 1976, the beak width of the average *G. fortis* tends to be smaller in 1978.

The population underwent a stabilizing selection.

True or False Questions [1pt each]

Question 12

2 out of 2 points

Emergence is a property:

Selected Answer: ☒ that is purportedly responsible for the formation of life

Answers:

of only living systems

of only chemical & physical systems

☒ that is purportedly responsible for the formation of life

that is not seen in simple systems, such as protocells

Question 13

0 out of 1 points

The currently available fossil record documents gradual evolutionary changes that can link one group of organisms to another.

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Selected Answer: ☒ False

Answers: ☒ True
☐ False

Question 14

2 out of 2 points

In the North Pacific Ocean, two groups of the same species of killer whales (*Orcinus orca*) appear to be forming two different species based on what they eat. One group eats fish while the other eats mammals such as seals. Scientists can tell what they eat based on their teeth because whales that feed on fish have significantly different wear patterns. Which of the following best describes the type of speciation event that is occurring in the whales?

Selected Answer: ☒ Sympatric speciation

Answers: ☒ Sympatric speciation
☐ Allopatric speciation
☐ Geographic speciation
☐ None of these choices
☐ Punctuated speciation

Question 15

2 out of 2 points

A small population of tortoises has been isolated on a small, remote island in the Galapagos for over 10,000 generations. While the population's characteristics are still similar to the ancestral mainland species, male sperm exhibit a variety of abnormalities and female fertility is much lower than on the mainland. What process may have been acting on this island's population?

Selected Answer: ☒ genetic drift

Answers: ☒ genetic drift
☐ sexual selection
☐ very large stabilizing selection
☐ disruptive selection
☐ gene flow

Question 16

0 out of 2 points

This person independently converged on the idea of evolution by natural selection:

Selected Answer: ☒ Lamarck

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Answers:

Lamarck

Colbert

Malthus

☒ Wallace

Question 17

2 out of 2 points

Archaea:

Selected Answer: ☒ one of the three domains of life

Answers:

gave rise to protocells

found primarily in oceans

☒ one of the three domains of life

all of the answers are correct

Question 18

2 out of 2 points

According to the fossil record, the **genus Homo** first arose in:Selected Answer: ☒ Africa

Answers:

North America

☒ Africa

Asia

Europe

Question 19

1 out of 1 points

Predators have learned to associate desirable prey with bright colors.

Selected Answer: ☒ False

Answers:

True

☒ False

Question 20

1 out of 1 points

The Founder Effect is the loss of genetic variation that occurs when a new population is established by a very small number of individuals from a larger population.

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Selected Answer: ☒ True

Answers: ☒ True

☐ False

Question 21

2 out of 2 points

Birds with average-sized wings survived a severe storm more successfully than other birds in the same population with longer or shorter wings. This illustrates:

Selected Answer: ☒ stabilizing selection

Answers: ☐ artificial selection

☐ directional selection

☒ stabilizing selection

☐ disruptive selection

Question 22

2 out of 2 points

In coevolution with moths and bats:

Selected Answer: ☒

Answer: ☒ moths developed ears or ability to detect sonar and avoid predation by bats

Answers:

☐ bats developed better eye-sight to again be successful at preying on moths

☒ moths developed ears or ability to detect sonar and avoid predation by bats

☐ all of the answers are correct

☐ moths developed larger wings to better escape from bats

Question 23

1 out of 1 points

Stromatolites are deposits of plant material found near the primordial ocean.

Selected Answer: ☒ False

Answers: ☐ True

☒ False

Question 24

2 out of 2 points

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Roses native to India are grown at a plant-breeding center in Arizona, where those with the thickest leaves survive and reproduce best in the drier climate. This evolutionary adaptation of roses to their new environment is due to ____.

Selected Answer: ☒ directional selection

Answers: ☐ stabilizing selection

☒ directional selection

☐ genetic drift

☐ disruptive selection

Question 25

2 out of 2 points

A rabbit population consists of animals that are either very dark on top or very light on top. The color pattern is not related to sex. No rabbit shows intermediate coloration (medium darkness). This pattern might result from:

Selected Answer: ☒ disruptive selection

Answers: ☐ directional selection

☐ sexual selection

☐ stabilizing selection

☒ disruptive selection

Question 26

2 out of 2 points

What was "Darwin's Dilemma" with evolution?

Selected Answer: ☒ there was a lack of fossil evidence of ancestors to the Cambrian explosion

Answers: ☐ there was not any quantitative evidence of evolution

☐ necessary evidence was lost in a fire at the University of Edinburgh

☐ it was not likely that the fauna in the Cambrian explosion had any previous ancestors

☒ there was a lack of fossil evidence of ancestors to the Cambrian explosion

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Question 27

0 out of 2 points

The endosymbiotic theory explains

Selected

☒ all of the choices are correct

Answer:

Answers:



how mitochondria and chloroplasts originated from free-living cells

how bacterial cells can invade eukaryotic cells and cause disease

all of the choices are correct

the origin of all organelles in eukaryotic cells

Question 28

2 out of 2 points

"Lucy" who belongs to the group _____, was a bipedal hominin with a brain smaller than that of humans.

Selected Answer:

*Australopithecus*

Answers:

Ardipithecus*Australopithecus**Homo habilis**Homo erectus***Question 29**

2 out of 2 points

During the Cambrian explosion approximately 535 to 525 million years ago:

Selected



animals rapidly diversified in the oceans

Answer:

Answers:

great forests produced peat layers that were later transformed into coal

a massive volcanic eruption nearly wiped out life on Earth



animals rapidly diversified in the oceans

all modern species of animals suddenly appeared

Question 30

2 out of 2 points

Mass extinctions:

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Selected ☒

Answer: Can be responsible for an adaptive radiation where new species develop to occupy newly opened niche environments

Answers:

Mainly serves to "weed out" poorly adapted organisms and make room for more advanced species

Permanently and irreversibly reduces the total number of species on Earth

Are caused by human activity and did not occur prior to the expansion of the Earth's human population

☒

Can be responsible for an adaptive radiation where new species develop to occupy newly opened niche environments

Question 31

1 out of 1 points

The same criteria are currently used to define both animal and bacterial species.

Selected Answer: ☒ FalseAnswers: ☐ True☒ False**Question 32**

2 out of 2 points

A current leading hypothesis about the first system of inheritance in the earliest life forms involved:

Selected Answer: ☒ self-replicating RNA molecules aided by ribozymes

Answers:

☒ self-replicating RNA molecules aided by ribozymes

proteins that served as templates for RNA molecules, leading to the formation of DNA

self-replicating polypeptides aided by ribosomes

self-replicating DNA molecules

Question 33

0 out of 1 points

Reduced allele variation results in an increased chance of extinction.

Selected Answer: ☒ False

Answers:

☒ True
☐ False

Question 34

2 out of 2 points

Which of the following options lists major events in the history of life on Earth in the proper order, from earliest to most recent?

Selected



Answer:

first prokaryotes; photosynthesis; then eukaryotes; colonization of land by plants and fungi

Answers:

first eukaryotes; photosynthesis; colonization of land by plants and fungi; then prokaryotes



first prokaryotes; photosynthesis; then eukaryotes; colonization of land by plants and fungi

first prokaryotes; then eukaryotes; photosynthesis; colonization of land by plants and fungi

first prokaryotes; photosynthesis; colonization of land by plants and fungi; then eukaryotes

Question 35

2 out of 2 points

When there seems to be no contemporary selective forces that can explain the traits of recent organisms, such as the New Zealand Moa, evolutionary biologists often invoke the idea of:

Selected Answer:



ghost of predation past

Answers:

allopatric speciation

parapatric speciation

convergence



ghost of predation past

natural selection

Question 36

1 out of 1 points

Beta hemoglobin is a conserved protein that is useful for comparing the lineage of species.

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Selected Answer: ☒ TrueAnswers: ☒ True
☐ False**Question 37**

1 out of 1 points

Parental care is a characteristic shared by all primates.

Selected Answer: ☒ TrueAnswers: ☒ True
☐ False**Question 38**

0 out of 2 points

The Burgess Shale deposits:

Selected Answer: ☒ Contain early humanoid fossilsAnswers: ☐ Contain many examples of bacterial fossils
☐ Are too old to represent the vertebrate body plan
☐ Contain early humanoid fossils
☒ Contain fossils exhibiting modern body plans of animals**Question 39**

2 out of 2 points

Which best describes the Permian Mass Extinction Event?

Selected Answer: ☒ Highest mass extinction death rateAnswers: ☒ Highest mass extinction death rate
☐ Wiped out the dinosaurs
☐ Asteroid impact(s) & rapid global cooling
☐ Most recent mass extinction**Question 40**

2 out of 2 points

The North American Pronghorn far outraces any predators remaining on the North American continent. If maintaining this speed means bearing fewer offspring, which of the following is the most likely to happen given enough time?

Selected Answer: ☒ This species will slow downAnswers: ☐ This species will split into two new species

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None of the choices are correct

- ☒ This species will slow down
- ☐ This species will go extinct
- ☐ This species will become even faster

Question 41

0 out of 2 points

What concept did the video on the Christmas Island crabs emphasize?

Selected Answer: ☒ How organisms can become invasive species

- Answers:
- ☐ The emergence of the first tetrapod
 - ☐ How speciation of one species to two species occurs
 - ☒ More offspring will be produced than can possibly survive
 - ☐ The importance of paleontology
 - ☐ How organisms can become invasive species

Question 42

2 out of 2 points

The reason that pea hens mate with peacocks with large tails and many eye spots is that:

Selected Answer: ☒ the size and spot density are indicative of peacock fitness shown as an increased survival rate of chicks.

Answers:

- ☐ the male will draw predators to it and this indirectly protects the pea hen and offspring from predation.

flashy displays by males are used to trick females into mating with them.

☒ the size and spot density are indicative of peacock fitness shown as an increased survival rate of chicks.

peacocks that survive predation are more physically fit and make better mates.

Question 43

2 out of 2 points

The emergence of many diverse species from a common ancestor is called:

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Selected Answer: ☒ adaptive radiation
Answers: ☐ none of the answers are correct
☒ adaptive radiation
☐ allopatric speciation
☐ genetic drift

Question 44

1 out of 1 points

Archaea have the simplest known genomes because they are the most ancient microorganisms.

Selected Answer: ☒ False
Answers: ☐ True
☒ False

Question 45

2 out of 2 points

Two populations of organisms **belong to the same biological species** when they

Selected Answer: ☒ encounter each other, mate, and produce viable, fertile offspring under natural conditions.
Answers: ☐ use different types of behaviors or physical features to attract mates.
☐ have anatomical features that make it difficult for organisms from the different populations to mate.
☒ encounter each other, mate, and produce viable, fertile offspring under natural conditions.
☐ can't mate with each other, because mating occurs at different times.

Question 46

0 out of 2 points

Which of the following options list the taxonomic categories in the correct order from most specific to most general?

Selected Answer: ☒ family, genus, class, order, phylum
Answers: ☒ genus, family, order, class, phylum
☐ family, genus, order, phylum, class
☐ family, genus, class, order, phylum

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genus, family, class, order, phylum

Question 47

2 out of 2 points

The **most recent** evidence examining the relationship between modern humans and Neanderthals comes from analysis of:

Selected Answer:

☒ Neanderthal genes in European lineage *H. sapiens*.

Answers:

the types of tools that were made by Neanderthals as compared to those of *H. sapiens*.

the age of fossil footprints of *H. sapiens*.

comparison of Neanderthal social/cultural characteristics to that of human social characteristics.

☒ Neanderthal genes in European lineage *H. sapiens*.

Question 48

2 out of 2 points

Speciation **without** geographic isolation is called _____ speciation.

Selected Answer: ☒ sympatric

Answers:

incomplete

allopatric

diversifying

☒ sympatric

Question 49

2 out of 2 points

The forelimbs of humans, cats, and bats have a number of detailed similarities in their construction. What best explains these similarities?

Selected Answer: ☒

The forelimbs are similar because all of these organisms inherited the basic forelimb design from a common ancestor.

Answers:

The forelimbs are similar because there is only one workable way to construct a useful arm, leg, or wing.

The similarities are coincidental.

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The forelimbs are similar because of adaptation through the process of natural selection.

✓
The forelimbs are similar because all of these organisms inherited the basic forelimb design from a common ancestor.

Question 50

0 out of 2 points

Which of the following are main categories of evidence that scientists use to study evolution?

Selected Answer: ✗ fossils and molecular/biochemical

Answers:

fossils

anatomical

fossils and molecular/biochemical

✓ fossils and anatomical and molecular/biochemical

molecular/biochemical

Question 51

2 out of 2 points

The K-T boundary is geologically identifiable because scientists found evidence of a massive asteroid impact in the form of depositions of:

Selected Answer: ✓ Iridium

Answers:

✓ Iridium

Zircons

Iodine

Carbon

Question 52

2 out of 2 points

When two organisms share similar traits but don't share a common ancestor, these species are an example of?

Selected Answer: ✓ Convergence

Answers:

Adaptive radiation

✓ Convergence

Co-evolution

Natural selection

Question 53

2 out of 2 points

Which best describes *Homo habilis*?

Selected

☒ Handy man- first to make and use stone tools

Answer:

Answers:

The possible missing link between early primates and modern looking primates

☒ Handy man- first to make and use stone tools

Mated with humans, lived recently (200,000 – 40,000 years ago)

The upright man-human looking (lived 1.9MYA to 143,000 YA)

Question 54

1 out of 1 points

Based on mitochondrial DNA analyses the "Out of Africa" hypothesis about where modern humans came from is currently favored.

Selected Answer: ☒ True

Answers:

☒ True

False

Question 55

1 out of 1 points

The discovery of Tiktaalik was so important because it was the missing ancestral link between fish and birds.

Selected Answer: ☒ False

Answers:

True

☒ False**Question 56**

2 out of 2 points

What compounds and conditions did Stanley Miller need to perform his 1953 experiment to simulate an early atmosphere?

Selected Answer: ☒ water vapor, H₂, CH₄, NH₃ and Lightning

Answers:

water vapor, CO₂, CH₄, NH₃ and Lightning

water vapor, CO₂, H₂, NH₃ and Heat

water vapor, CO₂, O₂, NH₃ and Lightning

☒ water vapor, H₂, CH₄, NH₃ and Lightning

Question 57

0 out of 1 points

Protocell fossils were found in Australia.

Selected Answer: ☒ True

Answers: ☐ True

☒ False

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← OK