ALBERTA BIOLOGY 30 · UNIT D · 10 QUESTIONS

Population & Community Dynamics — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **The graph shows heterozygous genotype frequency for different recessive allele frequencies. A population of 2000 individuals has a homozygous recessive genotype frequency of 0.09. Point A marks the recessive allele frequency for this population. How many individuals are expected to have the heterozygous genotype? Record your answer as a number.**

ANSWER

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2 **A remora fish attaches to a shark and feeds on scraps of food left by the shark; the shark is unaffected. A leech attaches to a deer and feeds on the blood of the deer. Which of the following rows identifies the relationship between the remora and the shark and the relationship between the leech and the deer?**

A Remora and shark: mutualism Leech and deer: parasitism

B Remora and shark: commensalism Leech and deer: parasitism

C Remora and shark: commensalism Leech and deer: mutualism

D Remora and shark: parasitism Leech and deer: commensalism

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3 **A population of 25 prairie dogs is separated from a larger population. Over several generations, some alleles disappear from the small population purely by chance, even though the alleles do not affect survival. This change in the gene pool is an example of**

A gene flow

B mutation

C genetic drift

D natural selection

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4 **To estimate the size of a fish population in a pond, biologists captured, marked, and released 48 fish. Later, they captured 90 fish, and 16 of these fish were marked. The estimated size of the fish population is**

- A 180
- B 270
- C 320
- D 432

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5 **A population of deer grows beyond the carrying capacity of its environment. Which of the following is the most likely outcome?**

- A The death rate will increase, and the population will decline toward the carrying capacity
- B The population will continue to grow exponentially
- C The carrying capacity will increase to equal the population size
- D The birth rate will increase, and the population will stabilize above the carrying capacity

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6 **Two different species of plants growing in the same field both require nitrogen from the soil. When nitrogen is in short supply, the two species are in**

A intraspecific competition

B resource partitioning

C competitive exclusion

D interspecific competition

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7 **After many years without a major disturbance, a forest community becomes stable and changes very little. A community of this type is called a**

A climax community

B pioneer community

C seral community

D disturbed community

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8 **In one year, a population of 5000 geese had 400 births, 250 deaths, 30 immigrants, and 80 emigrants. The per capita growth rate of the geese population for that year was**

ANSWER

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9 **In a population of peacocks, females prefer to mate with males that have the largest and most colourful tails. Because of this preference, the population is not in Hardy-Weinberg equilibrium. The equilibrium condition that is violated by this preference is**

A no mutations occur

B mating is random

C no gene flow occurs

D the population is infinitely large

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10 **The maximum rate at which a population could increase under ideal conditions, with unlimited resources, is called its**

A carrying capacity

B environmental resistance

C biotic potential

D limiting factor

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ANSWER KEY

1.	840	**5.**	A	**9.**	B
2.	B	**6.**	D	**10.**	C
3.	C	**7.**	A		
4.	B	**8.**	0.02		

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