Bio.12-Q1W2-H.W-Population Ecology

Multiple Choice

Identify the choice that best completes the statement or answers the question.

 1.	Limiting factors whose effects increase as the s	ize (of the population increases are		
	a. abiotic factors.	c.	exponential in nature.		
	b. density-dependent factors.	d.	density-independent factors.		
 2.	The movement of individuals from a population	is			
	a. immigration.	c.	a life-history pattern.		
	b. a reproductive pattern.	d.	emigration.		
 3.	The proportions of a population that are at diffe	rent	age levels make up the population's		
	a. fertility rate.	c.	age structure.		
	b. growth rate.	d.	carrying capacity.		
 4.	Unrestricted populations of organisms experience	ce			
	a. exponential growth.	c.	infertility.		
	b. linear growth.	d.	biotic growth.		
 5.	For a particular species, the carrying capacity isa. the species could reach in a given time periodb. can be supported by a given environment.c. are in their post-reproductive years.d. can be supported if there are no limiting factories.	the od if	maximum number of individual organisms that f all the offspring survive and reproduce.		
 6.	Density-independent factors are limiting factors	s wh	ose effects are		
	a. confined to the habitat of a population.				
	b. determined by the degree of competition fo	r res	sources.		
	c. not influenced by population densities.				
_	d. determined by the difference between birthi	rate	and death rate.		
 7.	Initially, population growth can be illustrated as	s a J	-shaped curve. What is this type of growth called?		
	a. Sinusoidal	С.	Exponential		
0	b. Linear	а.	None of the above		
 8.	A new species of mouse is introduced into an en As the population grows, food resources diminis of mice in the environment levels off so that the constant number of organisms called? a. Carrying capacity	nviro sh a e rat c.	In predation by hawks increases. Eventually, the number of birth equals the rate of death. What is this nearly Linear growth		
	b. Exponential growth	d.	None of the above		
 9.	A new species of mouse is introduced into an er As the population grows, food resources diminis of mice in the environment levels off so that the	nviro sh a e rato	onment. These mice reproduce and the population grows. Ind predation by hawks increases. Eventually, the number of birth equals the rate of death.		
If, after the situation described above is reached, scientists introduce 100 new mice from the same species into					
	the environment, which of the following is mos	t lik	ely to occur in the population of mice?		
	a. Death rate will decrease.	c.	Exponential growth		
	b. Death rate will increase.	d.	Linear growth		
 10.	You are studying organisms in an artificial environment unpredictable. What life-history pattern would y a. Rapid reproduction and short life span	roni you c.	nent. The environment is constantly changing and is expect to be most common in this environment? Slow reproduction and short life span		
	b. Rapid reproduction and long life span	d.	Slow reproduction and long life span		
	r		The share of the share		

 11.	Which of the following limiting factors is NOT density-dependent?				
	a. Disease c.	Competition			
	b. Drought d.	Food supply			
 12.	Increased population density often leads to events t	hat reduce the population size. Individual organisms often			
	exhibit symptoms of stress in this situation. These symptoms include-				
	a. increased aggression. c.	increased susceptibility to disease.			
	b. increased infertility. d.	All of the above			
 13.	Which of the following is NOT studied by demogra	iphers?			
	a. Growth rate c.	Geographic distribution			
14	b. Age structure d.	None of the above			
 14.	population is younger than the age of reproductive probably experience in the future?	maturity. What kind of growth will the population			
	a. Growth rate will remain the same. c.	Rapid growth			
	b. Slow, steady growth increase d.	None of the above			
 15.	Drastic fluctuations above and below the carrying of	capacity are most likely to be seen in a population			
	demonstrating which of the following life-history p	atterns?			
	a. Slow growth				
	b. Population independent				
	d The pattern cannot be determined by the inform	nation given			
16	What are forest fires, temperature fluctuations, and	floods all avamples of?			
 10.	a Biotic density-dependent factors	Abiotic density-dependent factors			
	b. Biotic, density-independent factors d.	Abiotic, density-independent factors			
17.	Which of the following problems do immigration a	nd emigration pose for demographers?			
	a. Demographers must provide for more city serv	ices.			
	b. Demographers cannot identify the age structure	e of immigrants.			
	c. Demographers find it difficult to make prediction	ons about populations.			
	d. Demographers study growth rates, age structure populations.	es, and geographic distributions of			
 18.	The effect of local population fluctuations in rapidly and fire services.	y expanding suburbs may schools, roads, and police			
	a. stress c.	have no effect on			
	b. reduce the need for d.	none of these			
 19.	The effect of movement of people between counties	s has effect on total world population.			
	a. a damaging c.	a great			
20	0. Inthe u.	no			
 20.	a about the same among all groups	ed by an age structure that is			
	b largest among pre-reproductive years				
	c. largest among reproductive years				
	d. largest among post-reproductive years				
 21.	Bacteria employ a(n) reproductive strategy,	a characteristic determined by their small size, rapid			
	maturation, and short life span.				
	a. unusual c.	rapid			
	b. early d.	slow			
 22.	The giant land tortoises of the Galapagos Islands an	nd sequoias of California have among the longest life spans			
	or any organisms. I his indicates that they likely en	ipioy a strategy of			
		carry sexual maturity			

 23. Organisms that employ a strategy of slow reproduction usually require an environment that a. is stable b. fluctuates from year to year c. has cold days b. fluctuates from year to year d. has 24-hour growing periods 24. A population that grows until it reaches its carrying capacity usually has the shape of an a. I c. S b. J d. M 25. Density-independent factors are limiting factors whose effects are a. confined to the habitat of the population b. determined by the degree of competition for resources c. not influenced by population densities d. determined by the difference between birthrate and population density 26. For a particular species, the carrying capacity is the maximum number of individual organisms that a. the species could reach in a given environment indefinitely c. are in their post-reproductive years d. could be supported by any environment over a period of one year 27. Unrestricted populations of organisms experience			b. slow growth	d.	all of these	
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b. density-dependent factors d. density-independent factors			a. abiotic factors	С.	limiting factors	
			b. density-dependent factors	a.	density-independent factors	

Completion

Complete each statement.

- A- carrying capacity
- B- density dependent
- C-J
- D- growth Rate
- E- rapid
- 31. Demographers collect and study data about the age structure, geographic distribution, and ______ of human populations.
- 32. Instead of growing explosively, population growth tends to level off because the population reaches the ______ of a particular environment.

- 34. Food, water, or shelter could be ______ factors on the growth of a population.
- 35. A(n) _______--shaped curve describes the tendency of a population to grow without limit to its size.

Problem

Figure 4-3 represents a population of bees occupying the same territory in the years 1990 and 1992. Each small block represents 100 bees.



36. What is the area of the territory occupied by the bees, according to Figure 4-3?

A-Area = $8 \text{ km} \times 5 \text{ km} = 40 \text{ sq km}$ B- Area = $9 \text{ km} \times 5 \text{ km} = 45 \text{ sq km}$ C- Area = $10 \text{ km} \times 5 \text{ km} = 50 \text{ sq km}$ D-Area = $11 \text{ km} \times 5 \text{ km} = 55 \text{ sq km}$

- 37. Observe Figure 4-3 to determine the density per square kilometer of the bee population in 1990.
 - A- Density = 1500 bees/50 sq km B- Density = 2000 bees/50 sq km C- Density = 2500 bees/50 sq km D- Density = 3000 bees/50 sq km
- 38. Referring to Figure 4-3, calculate the change in size and density of the bee population change from 1990 to 1992.
 - A- density decreased from 60 to 40 bees per sq km.
 - B- density decreased from 60 to 30 bees per sq km.
 - C- density decreased from 60 to 20 bees per sq km.
 - D- density decreased from 60 to 10 bees per sq km.