Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period: \_\_\_\_\_\_\_\_

**Unit 2: Ecological Populations**

**Multiple Choice:**

1. **\_\_\_\_\_\_ When a population has unlimited resources, ideal conditions, no predators, and no
 competition it will:**
	1. remain at the same level C. grow exponentially
	2. run out of food and crash D. decrease
2. **\_\_\_\_\_\_ Species that have left their normal environment that have no local predators or diseases
 and can outcompete the local species are:**
	1. endangered species C. predators
	2. invasive species D. prey
3. **\_\_\_\_\_\_ The maximum sustainable population that can live in an area at a given time without damaging or
 depleting the resources is the :**
	1. carrying capacity C. demographic transition
	2. logistic growth D. maximum growth potential
4. **\_\_\_\_\_\_ A relationship between two species where both benefit is called:**
	1. dependent C. Mutualistic
	2. supportive D. competition
5. ** \_\_\_\_\_\_The graph at right shows the number of the deer and the carrying capacity of their environment in a
 given area between 1900 and 1945. Using just the
 information in the graph - Why did the carrying
 capacity of the area change after 1925?**
6. The deer population decreased in 1926.
7. The deer population became too large and overgrazing damaged the environment
8. An unusually cold winter occurred in 1918
9. The number of predators increased between 1915 and 1925
10. **\_\_\_\_\_\_How could the carrying capacity of ALL ecosystems be
 increased**
	1. Increase the number of predators.
	2. Increase the resources available to the ecosystem
	3. Decrease the number of species within the ecosystem.
	4. Increase the temperature
11. **\_\_\_\_\_\_ A flea feasting on a cat is an example of**
	1. parasitism C. mutualism
	2. commensalism D. competition
12. **\_\_\_\_\_\_ Bacteria find shelter in your intestine and help you digest nutrients that you couldn’t otherwise. This
 is an example of**
	1. parasitism C. mutualism
	2. commensalism D. competition
13. **\_\_\_\_\_\_ Anything in the environment (biotic or abiotic) that keeps a population from reaching its maximum
 potential growth is known as:**
	1. a limiting factor C. the carrying capacity
	2. exponential growth D. a competitive factor

 **(1pt each)Use the food web to the right for the next 4 (T or F) questions:**

1. **T. if the mountain lion population decreases the rabbit and
 deer population will increase**
2. **F. if the mice population decreased then the seed eating birds
 would decrease too**
3. **T. The bark beetle population cannot increase unless the tree
 population also increases**
4. **T. if the mountain lion population decreases, first the rabbits
 will increase but (over several years) the rabbit population
 will decrease again back to normal**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # of Mice  | 200 | 300 | 260 | 240 |
| year | 2001 | 2002 | 2003 | 2004 |

**Use the table below for the next section:**

1. **(2pts) Calculate the carrying capacity for the mice population from 2001-2004 250**

**(1pt each) Name two Biotic limiting factors and explain the reason why they could have kept the mice population below K**

1. Limiting factor: \_\_\_\_\_\_\_\_\_Food\_\_\_\_\_\_\_\_\_reason: \_\_\_\_\_\_\_\_\_\_\_Not enough to support large population
2. Limiting factor: \_\_\_\_\_\_\_\_Predator\_\_\_\_\_\_\_reason: \_\_\_\_\_\_\_\_\_\_\_Kills a percentage of the population

**(1pt each) Name two Abiotic limiting factors and explain the reason why they could have kept the mice population below K**

1. Limiting factor: \_\_\_\_\_\_\_Water\_\_\_\_\_\_\_\_\_\_reason: \_\_\_\_\_\_\_\_\_\_\_Needed for life
2. Limiting factor: \_\_\_\_\_\_\_Temperature\_\_\_\_\_reason: \_\_\_\_\_\_\_\_\_\_\_Needs to be optimal for that organism

**Bonus:**

19 An organisms ‘job’ or role in the environment is a \_\_\_\_\_\_Niche

20. and where an organism lives is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_Habitat