UNIT 5 TEST

CHAPTERS 5

SECTION I

TIME: 25MINUTES

MULTIPLE CHOICE

**Multiple Choice**

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

1. The intrinsic rate of increase (r) is

|  |  |
| --- | --- |
| A) | the rate at which a population will reach its carrying capacity |
| B) | the rate at which a population would grow with unlimited resources |
| C) | determined by subtracting deaths from births and emigration from immigration |
| D) | not influenced by environmental resistance |
| E) | highest in large animals such as elephants and humans |

2. Kelp forests are a very important ecosystem in marine waters by supporting important biodiversity. These kelp forests are threatened by all of the following *except*

|  |  |
| --- | --- |
| A) | water pollution containing herbicides |
| B) | sea urchins |
| C) | southern sea otters |
| D) | humans |
| E) | water pollution containing fertilizers |

3. All of the following are forms of nondestructive behavior between species *except*

|  |  |
| --- | --- |
| A) | reducing competition by foraging at different times |
| B) | reducing competition by foraging in different places |
| C) | orchids attached to branches of forest trees |
| D) | using the energy or body of another organisms as a food source |
| E) | bacteria breaking down food for a host and having a sheltered habitat |

4. One way that species evolve over time to reduce niche overlap is called

|  |  |
| --- | --- |
| A) | competitive exclusion principle |
| B) | resource partitioning |
| C) | population distribution |
| D) | interspecific competition |
| E) | mimicry |

5. Which of the following is an example of a density-independent population control?

|  |  |
| --- | --- |
| A) | infectious disease |
| B) | habitat destruction |
| C) | parasitism |
| D) | predation |
| E) | competition for resources |

6. Emigration is

|  |  |
| --- | --- |
| A) | the one-way movement of individuals into an established population |
| B) | the one-way movement of individuals out of an uninhabited area |
| C) | the one-way movement of individuals out of a population to another area |
| D) | the repeated movement into and out of an area |
| E) | the lack of immigration into an area |

7. The non-poisonous \_\_\_\_ butterfly gains protection by looking like the bad-tasting \_\_\_\_ butterfly, which is a protective device known as \_\_\_\_.

|  |  |
| --- | --- |
| A) | monarch; viceroy; camouflage |
| B) | monarch; zebra swallowtail; camouflage |
| C) | viceroy; zebra swallowtail; mimicry |
| D) | viceroy; monarch; mimicry |
| E) | viceroy; monarch; camouflage |

8. Soil formation in primary succession is encouraged by all of the following *except*

|  |  |
| --- | --- |
| A) | physical weathering |
| B) | releasing of nutrients from rock |
| C) | arrival of pioneer species |
| D) | trapping of wind-blown soil |
| E) | acid rain |

9. Which of the following are *not* considered predators?

|  |  |
| --- | --- |
| A) | omnivores |
| B) | herbivores |
| C) | detritivores |
| D) | carnivores |
| E) | All of these are predators. |

10. Which of the following is an example of a density-dependent population control?

|  |  |
| --- | --- |
| A) | habitat destruction |
| B) | fire |
| C) | pollution |
| D) | floods |
| E) | competition for resources |

11. Which of the following is *not* a reason we should be concerned about the southern sea otter going extinct?

|  |  |
| --- | --- |
| A) | They increase tourism. |
| B) | They have thick, luxurious fur. |
| C) | There are ethical reasons for causing premature extinction of a species. |
| D) | They help maintain kelp beds. |
| E) | They are classified as a keystone species. |

12. Late successional plants are largely unaffected by plants at earlier stages of succession, a factor called

|  |  |
| --- | --- |
| A) | facilitation |
| B) | imperturbability |
| C) | inhibition |
| D) | tolerance |
| E) | intolerance |

13. On a field trip for a university class you observe an area filled with herbs, grasses, and low shrubs. These are examples of which of the following?

|  |  |
| --- | --- |
| A) | pioneer species |
| B) | early successional plant species |
| C) | midsuccessional plant species |
| D) | late successional plant species |
| E) | climax plant species |

14. Plants such as bromeliads share a commensalism interaction with large trees in tropical and subtropical forests. The bromeliads are an example of

|  |  |
| --- | --- |
| A) | parasites |
| B) | opportunistic parasites |
| C) | epiphytes |
| D) | prey |
| E) | herbivores |

15. Which of the following would cause a population to overshoot its carrying capacity?

|  |  |
| --- | --- |
| A) | an increase in predators |
| B) | a decrease in birth rates |
| C) | an increase in emigration |
| D) | a decrease in environmental pressures |
| E) | a reproductive time lag between birth and death rates |

16. Which of the following would exhibit primary succession?

|  |  |
| --- | --- |
| A) | a rock exposed by a retreating glacier |
| B) | an abandoned farm |
| C) | a clear-cut forest |
| D) | newly flooded land |
| E) | a recently burned forest |

17. Small, isolated populations are vulnerable to loss of genetic diversity because of four of the following genetic factors. Choose the answer that is *not* one of these factors.

|  |  |
| --- | --- |
| A) | inbreeding |
| B) | demographic bottleneck |
| C) | gene flow |
| D) | founder effect |
| E) | genetic drift |

18. Population dynamics examine changes to a population as a result of changing environmental conditions. Those conditions include all of the following *except*

|  |  |
| --- | --- |
| A) | increasing commensalism |
| B) | temperature |
| C) | presence of disease organisms |
| D) | arrival or disappearance of competing species |
| E) | resource availability |

19. K-strategists

|  |  |
| --- | --- |
| A) | have high genetic diversity |
| B) | are more response to environmental changes than r-strategists |
| C) | exhibit fast rates of evolution |
| D) | are generally less adaptable to change than r-strategists |
| E) | reach reproductive age rapidly |
|  |  |



Use the Figure above to answer the following question(s).

20. Choose the letter that represents limiting abiotic factors.

21. Choose the letter that represents when resources are not limiting and a population can grow at its intrinsic rate of increase.

22. Choose the letter that represents a population's capacity for growth.

23. Choose the letter that represents population size at which a population in a particular environment will stabilize when its supply of resources remains constant.



Use the Figure above to answer the following question(s).

24. Choose the portion of the graph that represents the number of reindeer that can be sustained indefinitely in a given area.

25. Choose the portion of the graph that represents the number of reindeer that exceeded the capacity of their environment.

26. Choose the portion of the graph that can also be called a dieback.



Use the Figure above to answer the following question(s).

27. Choose the portion of the curve that results from the biotic potential and environmental resistance.

28. Choose the portion of the curve that results from reproductive time lag.

29. Although levels of CFCs in the atmosphere are much lower than those of CO2, CFCs are still potent greenhouse gases because they

1. remain in the atmosphere for only a brief time
2. lack natural sources
3. are much more efficient at absorbing thermal radiation \*2010
4. circulating through the troposphere more easily than CO2 does
5. are more difficult to remove from smokestacks and tailpipes
6. Global climate change occurs because increasing concentrations of greenhouse gases in
7. the troposphere absorb outgoing IR radiation \*
8. the stratosphere absorb outgoing IR radiation
9. the troposphere absorb incoming UV radiation
10. the stratosphere absorb incoming UV radiation
11. neither the troposphere nor the stratosphere absorb incoming UV radiation

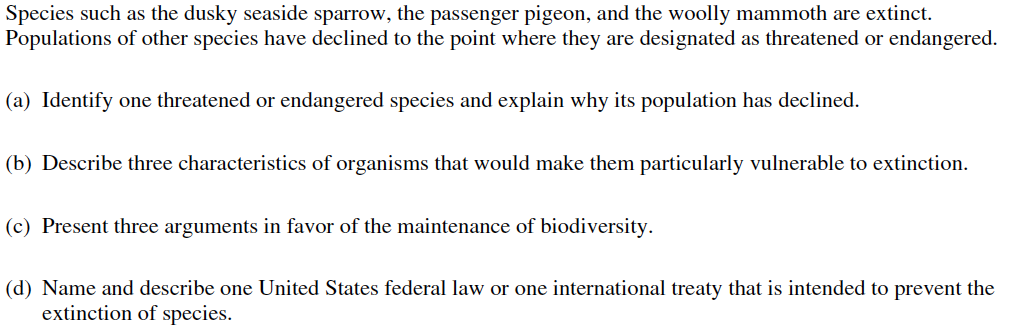
31. Energy is always conserved. This principle is stated in the

1. 2nd law of thermodynamics
2. 2nd law of enthalpy
3. 1st law of entropy
4. 1st law of thermodynamics \*
5. 3rd law of thermodynamics
6. In any energy transformation, some energy is always degraded to low quality energy. This principle is stated in the
7. 2nd law of thermodynamics \*
8. 2nd law of enthalpy
9. 1st law of entropy
10. 1st law of thermodynamics
11. 3rd law of thermodynamics
12. When fossil fuels are burned, adding to greenhouse gases and creating global warming, it is known as
13. biodiversity lithification
14. gasification
15. deforestation
16. dissolution
17. enhanced greenhouse effect \*
18. Consider the following scenario: The temperature of your skin increases, which leads to an increase in perspiration. Perspiration evaporates from the surface of your skin. The temperature of your skin decreases. This is an example of
19. a positive feedback loop
20. a negative feedback loop \*
21. syngery
22. a closed sysytem
23. an open system
24. \*
25. The amount of human-produced carbon dioxide being absorbed into the oceans gets high enough, the ocean’s top layer may become increasingly
26. acidic \*
27. basic
28. opaque
29. neutral
30. murky

SECTION II

TIME: 15 MINUTES

FREE RESPONSE QUESTION



**Unit 5 test**

**Answer Section**

**MULTIPLE CHOICE**

1. ANS: B PTS: 1 DIF: Moderate

TOP: 5-3 What Limits the Growth of Populations?

2. ANS: C PTS: 1 DIF: Moderate TOP: 5-1 How Do Species Interact?

3. ANS: D PTS: 1 DIF: Difficult TOP: 5-1 How Do Species Interact?

4. ANS: B PTS: 1 DIF: Moderate

TOP: 5-2 How Can Natural Selection Reduce Competition between Species?

5. ANS: B PTS: 1 DIF: Moderate

TOP: 5-3 What Limits the Growth of Populations?

6. ANS: C PTS: 1 DIF: Moderate

TOP: 5-3 What Limits the Growth of Populations?

7. ANS: D PTS: 1 DIF: Moderate TOP: 5-1 How Do Species Interact?

8. ANS: E PTS: 1 DIF: Moderate

TOP: 5-4 How Do Communities and Ecosystems Respond to Changing Environmental Conditions?

9. ANS: C PTS: 1 DIF: Moderate TOP: 5-1 How Do Species Interact?

10. ANS: E PTS: 1 DIF: Moderate

TOP: 5-3 What Limits the Growth of Populations?

11. ANS: B PTS: 1 DIF: Moderate TOP: 5-0 Core Case Study

12. ANS: D PTS: 1 DIF: Moderate

TOP: 5-4 How Do Communities and Ecosystems Respond to Changing Environmental Conditions?

13. ANS: C PTS: 1 DIF: Moderate

TOP: 5-4 How Do Communities and Ecosystems Respond to Changing Environmental Conditions?

14. ANS: C PTS: 1 DIF: Moderate TOP: 5-1 How Do Species Interact?

15. ANS: E PTS: 1 DIF: Moderate

TOP: 5-3 What Limits the Growth of Populations?

16. ANS: A PTS: 1 DIF: Moderate

TOP: 5-4 How Do Communities and Ecosystems Respond to Changing Environmental Conditions?

17. ANS: C PTS: 1 DIF: Moderate

TOP: 5-3 What Limits the Growth of Populations?

18. ANS: A PTS: 1 DIF: Difficult

TOP: 5-3 What Limits the Growth of Populations?

19. ANS: D PTS: 1 DIF: Moderate

TOP: 5-3 What Limits the Growth of Populations?

**OTHER**

20. ANS:

D

PTS: 1 DIF: Moderate OBJ: Labeling

21. ANS:

A

PTS: 1 DIF: Moderate OBJ: Labeling

22. ANS:

C

PTS: 1 DIF: Moderate OBJ: Labeling

23. ANS:

B

PTS: 1 DIF: Moderate OBJ: Labeling

24. ANS:

B

PTS: 1 DIF: Moderate OBJ: Labeling

25. ANS:

B

PTS: 1 DIF: Moderate OBJ: Labeling

26. ANS:

C

PTS: 1 DIF: Moderate OBJ: Labeling

27. ANS:

B

PTS: 1 DIF: Easy OBJ: Labeling

28. ANS:

A

PTS: 1 DIF: Easy OBJ: Labeling