**Fall 2011 Midterm Study Guide**

**Multiple Choice**

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

\_\_\_\_ 1. Which of the following is not a goal of *environmental science*?

|  |  |
| --- | --- |
| a. | learn how nature works |
| b. | learn how the environment affects us |
| c. | learn how to deal with environmental problems |
| d. | learn how to live more sustainably |
| e. | learn how to persuade politicians to enact sustainability legislation |

\_\_\_\_ 2. Ecology is the study of

|  |  |
| --- | --- |
| a. | plants. |
| b. | animals. |
| c. | global climate change. |
| d. | relationships between organisms and their environment. |
| e. | the chemistry of living things. |

\_\_\_\_ 3. Natural capital includes all of the following *except*

|  |  |
| --- | --- |
| a. | sunlight |
| b. | air |
| c. | water |
| d. | soil |
| e. | nutrients |

\_\_\_\_ 4. Using normally renewable resources faster than nature can renew them is called

|  |  |
| --- | --- |
| a. | nutrient cycling |
| b. | nutrient deficit |
| c. | sustainability |
| d. | trade-offs |
| e. | degrading natural capital |

\_\_\_\_ 5. In 2005, the United Nations suggested human activities are degrading or overusing what percentage of the earth's natural resources?

|  |  |
| --- | --- |
| a. | 12% |
| b. | 33% |
| c. | 47% |
| d. | 62% |
| e. | 97% |

\_\_\_\_ 6. The highest rate at which a renewable resource can be used indefinitely without reducing its available supply is called

|  |  |
| --- | --- |
| a. | conservation |
| b. | sustainable yield |
| c. | preservation |
| d. | perpetual resource |
| e. | degradation |

\_\_\_\_ 7. Which of the following is not a solution suggested by the author to the problem of the degradation of a shared common resource?

|  |  |
| --- | --- |
| a. | Remove it from use by anyone. |
| b. | Convert it to private ownership. |
| c. | Use it as a rate well below estimated sustainable yields. |
| d. | Regulate access to the resource. |
| e. | All of these. |

\_\_\_\_ 8. Which of the following would *not* be considered a nonrenewable resource?

|  |  |
| --- | --- |
| a. | copper |
| b. | oil |
| c. | fresh air |
| d. | salt |
| e. | sand |

\_\_\_\_ 9. An average ecological footprint of an individual in a given country or area is called

|  |  |
| --- | --- |
| a. | per capita gross GNP |
| b. | ecological footprint |
| c. | per capita GDP PPP |
| d. | sustainable yield |
| e. | per capita ecological footprint |

\_\_\_\_ 10. Use of a natural resource based on sustainable yields applies to

|  |  |
| --- | --- |
| a. | nonrenewable resources |
| b. | renewable resources |
| c. | perpetual resources |
| d. | amenity resources |
| e. | recycling |

\_\_\_\_ 11. Which of the following revolutions led to a shift from rural villages to more urban societies?

|  |  |
| --- | --- |
| a. | Agricultural |
| b. | Industrial-Medical |
| c. | Urban-Industrial |
| d. | Information-Globalization |
| e. | Technology-Sustainability |

\_\_\_\_ 12. Effects of pollution might include

|  |  |
| --- | --- |
| a. | being unable to see the top of skyscrapers because of smog |
| b. | destruction of a statue in a city park by acid rain |
| c. | spread of a disease from an open dump |
| d. | fish kills in lakes and streams |
| e. | all of these |

\_\_\_\_ 13. Scientists have identified several problems with relying primarily on pollution cleanup. Which of the following is not one of those problems?

|  |  |
| --- | --- |
| a. | It is only a temporary bandage as long as the situation remains the same. |
| b. | Elimination of pollution at the time of production is expensive. |
| c. | It often simply moves the pollutant from one place to another. |
| d. | Once pollutants are released it is too expensive to remove them. |
| e. | All of these are identified problems. |

\_\_\_\_ 14. Which of the following is *not* normally an effect of poverty?

|  |  |
| --- | --- |
| a. | premature death from normally nonfatal diarrhea |
| b. | lack of clean drinking water |
| c. | severe respiratory illness from openly burning wood indoors |
| d. | diseases from poor sanitation |
| e. | heart disease and diabetes from obesity |

\_\_\_\_ 15. The real prices of goods and services do not include

|  |  |
| --- | --- |
| a. | the cost of raw materials |
| b. | the cost of manufacturing |
| c. | the environmental costs of resource use |
| d. | the cost of distribution |
| e. | the cost of advertising |

\_\_\_\_ 16. The set of assumptions and values reflecting how you think the world works and what you think your role in the world should be is called

|  |  |
| --- | --- |
| a. | environmental worldview |
| b. | environmental justice |
| c. | environmental ethics |
| d. | environmental economics |
| e. | environmental capital |

\_\_\_\_ 17. The idea that we should be responsible, caring managers of the earth is

|  |  |
| --- | --- |
| a. | the planetary management worldview |
| b. | the stewardship worldview |
| c. | the environmental wisdom worldview |
| d. | the environmental justice movement |
| e. | all of these |

\_\_\_\_ 18. Nature reveals four basic principles that could help us to transition to sustainable societies. Which of the following is *not* one of those principles?

|  |  |
| --- | --- |
| a. | reliance on solar energy |
| b. | biodiversity |
| c. | nutrient cycling |
| d. | survival of the fittest |
| e. | population control |

\_\_\_\_ 19. Which of the following is the definition of a scientific hypothesis?

|  |  |
| --- | --- |
| a. | a simulation of a system being studied |
| b. | a possible explanation for an observation |
| c. | information needed to answer questions |
| d. | procedures carried out under controlled conditions to gather information |
| e. | all of these |

\_\_\_\_ 20. Scientists try to reduce errors in their observations and measurements by

|  |  |
| --- | --- |
| a. | reducing bias |
| b. | using standard procedures |
| c. | testing measuring devices against known samples |
| d. | repeating measurements several times and taking the average value |
| e. | all of these |

\_\_\_\_ 21. The fundamental substances of matter that have unique sets of properties are called

|  |  |
| --- | --- |
| a. | mixtures |
| b. | compounds |
| c. | isotopes |
| d. | elements |
| e. | atoms |

\_\_\_\_ 22. All of the following are elements *except*

|  |  |
| --- | --- |
| a. | water |
| b. | oxygen |
| c. | nitrogen |
| d. | hydrogen |
| e. | carbon |

\_\_\_\_ 23. Protons, neutrons, and electrons are all

|  |  |
| --- | --- |
| a. | forms of energy |
| b. | equal in mass |
| c. | subatomic particles |
| d. | negative ions |
| e. | charged particles |

\_\_\_\_ 24. Isotopes are forms of an element that differ from one another by having different

|  |  |
| --- | --- |
| a. | atomic numbers |
| b. | numbers of electrons |
| c. | numbers of protons |
| d. | mass numbers |
| e. | electrical charges |

\_\_\_\_ 25. An atom or group of atoms with one or more net positive or negative charges is a(n)

|  |  |
| --- | --- |
| a. | base |
| b. | isotope |
| c. | ion |
| d. | acid |
| e. | none of these |

\_\_\_\_ 26. Liquid, solid, and gas are

|  |  |
| --- | --- |
| a. | physical forms of matter |
| b. | chemical forms of matter |
| c. | mixtures |
| d. | compounds |
| e. | molecules |

\_\_\_\_ 27. Which of the following is *not* one of the nuclear changes matter can undergo?

|  |  |
| --- | --- |
| a. | fission |
| b. | evaporation |
| c. | decay |
| d. | fusion |
| e. | All of these are nuclear changes. |

\_\_\_\_ 28. All of the following statements can be concluded from the law of conservation of matter *except*

|  |  |
| --- | --- |
| a. | We can't throw anything away because there is "no away." |
| b. | Eventually we will run out of matter if we keep consuming it. |
| c. | There will always be pollution of some sort. |
| d. | Everything must go somewhere. |
| e. | We do not consume matter. |

\_\_\_\_ 29. Scientists classify energy as either

|  |  |
| --- | --- |
| a. | chemical or physical |
| b. | kinetic or mechanical |
| c. | potential or mechanical |
| d. | potential or kinetic |
| e. | chemical or kinetic |

\_\_\_\_ 30. Which of the following statements is *false*?

|  |  |
| --- | --- |
| a. | Energy can be converted from one form to another. |
| b. | Energy and matter can generally be converted into each other. |
| c. | Energy input always equals energy output. |
| d. | The laws of thermodynamics can be applied to living systems. |
| e. | Energy conversion results in higher quality energy. |

\_\_\_\_ 31. Earth's supply of concentrated, usable energy is being steadily

|  |  |
| --- | --- |
| a. | depleted |
| b. | recycled |
| c. | reused |
| d. | converted to more usable forms |
| e. | converted to higher-quality forms |

\_\_\_\_ 32. Which of the following is *not* a key component of a system?

|  |  |
| --- | --- |
| a. | flows |
| b. | inputs |
| c. | outputs |
| d. | All are key components. |
| e. | None are key components. |

\_\_\_\_ 33. Which of the following is a property of a system?

|  |  |
| --- | --- |
| a. | functions in a regular and predictable manner |
| b. | highly random in its function |
| c. | cannot be accurately modeled |
| d. | consists solely of inputs and outputs |
| e. | none of these |

\_\_\_\_ 34. A positive feedback loop is illustrated by all of the following *except*

|  |  |
| --- | --- |
| a. | compound interest in a savings account |
| b. | exponential population growth |
| c. | a thermostat maintaining a certain temperature in your house |
| d. | the greenhouse effect |
| e. | none of these |

\_\_\_\_ 35. Which one of the following does *not* illustrate a time delay?

|  |  |
| --- | --- |
| a. | A smoker develops lung cancer. |
| b. | CFCs deplete the ozone layer. |
| c. | Increased carbon dioxide levels enhance the greenhouse effect. |
| d. | A fox eats a rabbit. |
| e. | Polar ice melting increases absorption of sunlight. |

\_\_\_\_ 36. Time delays in feedback systems allow changes in the environment to build slowly until the changes reach a(n)

|  |  |
| --- | --- |
| a. | synergy point |
| b. | input |
| c. | throughput |
| d. | tipping point |
| e. | bioaccumulation point |

\_\_\_\_ 37. Which of the following must obey the laws of thermodynamics?

|  |  |
| --- | --- |
| a. | organic life |
| b. | living systems |
| c. | economics |
| d. | humans |
| e. | all of these |

\_\_\_\_ 38. Ecology is the study of

|  |  |
| --- | --- |
| a. | human impact on the environment |
| b. | the abiotic elements of the environment |
| c. | the biotic elements of the environment |
| d. | how organisms interact with each other and the abiotic environment |
| e. | how evolution formed populations |

\_\_\_\_ 39. This is the total of all the different species that live in a certain area.

|  |  |
| --- | --- |
| a. | organism |
| b. | population |
| c. | community |
| d. | ecosystem |
| e. | biosphere |

\_\_\_\_ 40. These are the parts of the earth's air, water, and soil where organisms are found.

|  |  |
| --- | --- |
| a. | organism |
| b. | population |
| c. | community |
| d. | ecosystem |
| e. | biosphere |

\_\_\_\_ 41. These are the smallest and most fundamental structural and functional units of life.

|  |  |
| --- | --- |
| a. | atoms |
| b. | molecules |
| c. | compounds |
| d. | cells |
| e. | mitochondrion |

\_\_\_\_ 42. This is the place where a population or an individual organism normally lives.

|  |  |
| --- | --- |
| a. | community |
| b. | habitat |
| c. | territory |
| d. | niche |
| e. | zone |

\_\_\_\_ 43. Which of the following is *not* a major component of the earth's life-support system?

|  |  |
| --- | --- |
| a. | unisphere |
| b. | atmosphere |
| c. | hydrosphere |
| d. | geosphere |
| e. | biosphere |

\_\_\_\_ 44. All physical forms of water (solid, liquid, and gas) make up the

|  |  |
| --- | --- |
| a. | atmosphere |
| b. | lithosphere |
| c. | biosphere |
| d. | hydrosphere |
| e. | troposphere |

\_\_\_\_ 45. The most important factor in determining which biome is found in a particular area is

|  |  |
| --- | --- |
| a. | soil type |
| b. | topography |
| c. | biogeography |
| d. | climate |
| e. | longitude |

\_\_\_\_ 46. Of the total amount of solar energy intercepted by the earth, what percentage actually reaches the earth's surface?

|  |  |
| --- | --- |
| a. | 33% |
| b. | 20% |
| c. | 1% |
| d. | 67% |
| e. | 90% |

\_\_\_\_ 47. The amount of the earth's surface covered by the combination of freshwater and salt water is approximately

|  |  |
| --- | --- |
| a. | 3% |
| b. | 29% |
| c. | 51% |
| d. | 74% |
| e. | 97% |

\_\_\_\_ 48. Which of the following is not a type of consumer?

|  |  |
| --- | --- |
| a. | decomposer |
| b. | chemosynthetic |
| c. | omnivore |
| d. | carnivore |
| e. | detritivore |

\_\_\_\_ 49. The very necessary process of breaking down the dead bodies or wastes from organisms is a function of

|  |  |
| --- | --- |
| a. | detritivores |
| b. | omnivores |
| c. | carnivores |
| d. | herbivores |
| e. | decomposers |

\_\_\_\_ 50. Which of the following about microorganisms is *false*?

|  |  |
| --- | --- |
| a. | Bacteria and other microbes help purify the water we drink. |
| b. | Bacteria help produce the foods we eat. |
| c. | Bacteria help break down food in our intestines. |
| d. | Bacteria help speed up global warming. |
| e. | Microbes help control diseases of plants. |

\_\_\_\_ 51. Aerobic respiration requires

|  |  |
| --- | --- |
| a. | glucose and carbon dioxide |
| b. | glucose and oxygen |
| c. | oxygen and water |
| d. | carbon dioxide and water |
| e. | carbon dioxide and oxygen |

\_\_\_\_ 52. Anaerobic respiration may produce all of the following *except*

|  |  |
| --- | --- |
| a. | methane gas |
| b. | hydrogen sulfide |
| c. | carbon dioxide and water |
| d. | ethyl alcohol |
| e. | lactic acid |

\_\_\_\_ 53. Vitousek, Rojstaczer, and others estimate humans now use, waste, or destroy what percentage of the earth's total potential NPP?

|  |  |
| --- | --- |
| a. | 6-12% |
| b. | 15-18% |
| c. | 20-32% |
| d. | 25-35% |
| e. | 90% |

\_\_\_\_ 54. The hydrologic cycle is the movement of

|  |  |
| --- | --- |
| a. | carbon |
| b. | hydrogen |
| c. | hydrocarbons |
| d. | carbohydrates |
| e. | water |

\_\_\_\_ 55. How much of the earth's water supply is available as accessible liquid freshwater?

|  |  |
| --- | --- |
| a. | 10% |
| b. | 1% |
| c. | 0.024% |
| d. | 21% |
| e. | 97% |

\_\_\_\_ 56. The hydrologic cycle is driven primarily by

|  |  |
| --- | --- |
| a. | solar energy |
| b. | lunar tides |
| c. | solar tides |
| d. | mechanical energy |
| e. | chemical energy |

\_\_\_\_ 57. Precipitation can take several paths when it reaches the earth's surface. Which of the following is *not* one of those paths?

|  |  |
| --- | --- |
| a. | surface runoff into lakes, streams, and the ocean |
| b. | storage as ice in glaciers |
| c. | storage as groundwater in aquifers |
| d. | permanent storage as part of rocks |
| e. | storage in living components of ecosystems |

\_\_\_\_ 58. Which of the following is a way that humans alter the water cycle?

|  |  |
| --- | --- |
| a. | withdraw large quantities from streams, lakes, and aquifers |
| b. | increase runoff by clearing vegetation from the land |
| c. | alter weather patterns by clearing vegetation |
| d. | increase flooding by disturbing natural flood controls |
| e. | all of these |

\_\_\_\_ 59. Carbon is a major component of

|  |  |
| --- | --- |
| a. | water |
| b. | the oceans |
| c. | organic compounds |
| d. | the atmosphere |
| e. | hydrologic cycle |

\_\_\_\_ 60. Nitrogen is a major component of all of the following *except*

|  |  |
| --- | --- |
| a. | proteins |
| b. | nucleic acids |
| c. | groundwater |
| d. | ammonia |
| e. | DNA |

\_\_\_\_ 61. Sulfur is added to the atmosphere in all the following ways *except*

|  |  |
| --- | --- |
| a. | from volcanoes |
| b. | anaerobic decomposition in swamps |
| c. | eating meat |
| d. | sea spray |
| e. | acid rain deposition |

\_\_\_\_ 62. Ecologists would make use of which of the following in their study of nature?

|  |  |
| --- | --- |
| a. | field research |
| b. | geographic information system software |
| c. | controlled experiments |
| d. | satellite digital images |
| e. | all of these |

\_\_\_\_ 63. Biodiversity includes all of the following components *except*

|  |  |
| --- | --- |
| a. | functional diversity |
| b. | genetic diversity |
| c. | intellectual diversity |
| d. | ecosystem diversity |
| e. | species diversity |

\_\_\_\_ 64. The diversity that enables life on earth to adapt and survive environmental changes is called

|  |  |
| --- | --- |
| a. | functional diversity |
| b. | genetic diversity |
| c. | intellectual diversity |
| d. | ecosystem diversity |
| e. | species diversity |

\_\_\_\_ 65. The variety of processes, including matter cycling and energy flow within ecosystems, that result from species interacting with one another in food webs is called

|  |  |
| --- | --- |
| a. | functional diversity |
| b. | genetic diversity |
| c. | intellectual diversity |
| d. | ecosystem diversity |
| e. | species diversity |

\_\_\_\_ 66. A change in the genetic characteristics of a population from one generation to another is called

|  |  |
| --- | --- |
| a. | emigration |
| b. | mutation |
| c. | natural selection |
| d. | evolution |
| e. | genetic drift |

\_\_\_\_ 67. Mutations are *not* caused by which of the following?

|  |  |
| --- | --- |
| a. | ultraviolet light |
| b. | a physical accident to a parent |
| c. | radioactivity |
| d. | certain chemicals |
| e. | X rays |

\_\_\_\_ 68. Biological evolution by natural selection is when genes \_\_\_\_, individuals \_\_\_\_, and populations \_\_\_\_.

|  |  |
| --- | --- |
| a. | evolve; mutate; are selected |
| b. | are selected; mutate; evolve |
| c. | mutate; evolve; are selected |
| d. | evolve; are selected; mutate |
| e. | mutate; are selected; evolve |

\_\_\_\_ 69. Which of the following is *not* an adaptation that has made humans so successful?

|  |  |
| --- | --- |
| a. | strong opposable thumbs |
| b. | physical strength |
| c. | upright walking |
| d. | complex brain |
| e. | All of these have made us successful. |

\_\_\_\_ 70. From a scientific point of view, which of the following is *true*?

|  |  |
| --- | --- |
| a. | Evolution leads to survival of the strongest. |
| b. | Evolution leads to survival of the most valuable. |
| c. | Organisms develop traits because they need them. |
| d. | Fitness is a matter of reproductive success. |
| e. | Evolution follows a plan of nature. |

\_\_\_\_ 71. Geographic isolation may result from which of the following?

|  |  |
| --- | --- |
| a. | volcanic eruption |
| b. | earthquake |
| c. | mountain range |
| d. | road |
| e. | all of these |

\_\_\_\_ 72. An ecological niche includes all of the following *except*

|  |  |
| --- | --- |
| a. | the place where the species lives |
| b. | how much water the species needs |
| c. | how much sunlight the species needs |
| d. | how much space the species needs |
| e. | temperatures the species can tolerate |

\_\_\_\_ 73. Which of the following is *not* a specific role found in a niche?

|  |  |
| --- | --- |
| a. | native species |
| b. | indicator species |
| c. | keystone species |
| d. | specialist species |
| e. | foundation species |

\_\_\_\_ 74. Which of the following is *not* an example of an indicator species?

|  |  |
| --- | --- |
| a. | trout in water with a specific temperature requirement |
| b. | birds that need a large forested area |
| c. | butterflies that use a specific plant as food |
| d. | frogs that take in water and air through their skin |
| e. | All are examples of indicator species. |

\_\_\_\_ 75. Which of the following is *not* an example of a cause for the decline of amphibians?

|  |  |
| --- | --- |
| a. | habitat loss |
| b. | prolonged rainy periods |
| c. | pollution |
| d. | increases in UV radiation |
| e. | parasites |

\_\_\_\_ 76. Which of the following is said to occur when members of two or more species interact to gain access to the same limited resources?

|  |  |
| --- | --- |
| a. | interspecific competition |
| b. | predation |
| c. | parasitism |
| d. | mutualism |
| e. | commensalism |

\_\_\_\_ 77. Which of the following are *not* considered predators?

|  |  |
| --- | --- |
| a. | omnivores |
| b. | herbivores |
| c. | detritivores |
| d. | carnivores |
| e. | All of these are predators. |

\_\_\_\_ 78. Which of the following is *not* a method predators use to capture prey?

|  |  |
| --- | --- |
| a. | pursuit |
| b. | ambush |
| c. | camouflage |
| d. | chemical warfare |
| e. | protective shells |

\_\_\_\_ 79. Which of the following is *not* a method prey species use to avoid capture?

|  |  |
| --- | --- |
| a. | highly developed sense of sight or smell |
| b. | pines and thorns |
| c. | chemical warfare |
| d. | ambush |
| e. | camouflage |

\_\_\_\_ 80. 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 |

\_\_\_\_ 81. The relationship between clownfish and sea anemone is

|  |  |
| --- | --- |
| a. | interspecific competition |
| b. | predation |
| c. | parasitism |
| d. | mutualism |
| e. | commensalism |

\_\_\_\_ 82. 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 |

\_\_\_\_ 83. 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 |

\_\_\_\_ 84. The biotic potential of a population is

|  |  |
| --- | --- |
| a. | the maximum reproductive rate of a population |
| b. | the current rate of growth of a population |
| c. | an expression of how many offspring survive to reproduce |
| d. | determined by subtracting immigration minus emigration |
| e. | the future growth rate of a population |

\_\_\_\_ 85. 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 |

\_\_\_\_ 86. Which of the following is *not* one of the age structure categories?

|  |  |
| --- | --- |
| a. | postreproductive |
| b. | prereproductive |
| c. | reproductive |
| d. | nonreproductive |
| e. | All of these answers are categories. |

\_\_\_\_ 87. "The maximum population of a given species that a particular habitat can sustain indefinitely without being degraded" is the definition of

|  |  |
| --- | --- |
| a. | logistic growth |
| b. | environmental resistance |
| c. | exponential growth |
| d. | carrying capacity |
| e. | biotic potential |

\_\_\_\_ 88. When plotting the number of individuals in a population against time the data yield a J-shaped curve, which indicates which of the following?

|  |  |
| --- | --- |
| a. | logistic growth |
| b. | environmental resistance |
| c. | exponential growth |
| d. | carrying capacity |
| e. | biotic potential |

\_\_\_\_ 89. 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 |

\_\_\_\_ 90. 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 |

\_\_\_\_ 91. 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 |

\_\_\_\_ 92. Some species experience an explosion of population growth to a high peak followed by a crash to a more stable lower level. This is called which of the following?

|  |  |
| --- | --- |
| a. | stable |
| b. | irruptive |
| c. | cyclic |
| d. | irregular |
| e. | regular |

\_\_\_\_ 93. The ability of a living system to survive moderate disturbances is called

|  |  |
| --- | --- |
| a. | stability |
| b. | inertia |
| c. | constancy |
| d. | tipping point |
| e. | resilience |

\_\_\_\_ 94. Ecosystems and global systems have limits to the stresses they can take. The level beyond which any additional stress will cause an abrupt and unpredictable change is called

|  |  |
| --- | --- |
| a. | stability |
| b. | inertia |
| c. | constancy |
| d. | tipping point |
| e. | resilience |

\_\_\_\_ 95. The replacement-level fertility rate is \_\_\_\_ for developed countries and \_\_\_\_ for developing countries.

|  |  |
| --- | --- |
| a. | 1.6; 1.9 |
| b. | 2.5; 2.0 |
| c. | 2.0; 2.5 |
| d. | 2.1; 2.5 |
| e. | 1.8; 2.1 |

\_\_\_\_ 96. If every woman on earth had no more than an average of 2.1 children during their reproductive years, the human population would continue to rise for how long?

|  |  |
| --- | --- |
| a. | 5,000 years |
| b. | 150 years |
| c. | 50 years |
| d. | 20 years |
| e. | 5 years |

\_\_\_\_ 97. Which of the following would decrease the likelihood of a couple having a child?

|  |  |
| --- | --- |
| a. | The child is part of the family labor force. |
| b. | Contraceptives are not available. |
| c. | Women have opportunities to participate in education and employment. |
| d. | No public or private pension system exists. |
| e. | Infant mortality rates are high. |

\_\_\_\_ 98. Since 1955 the global life expectancy has risen to

|  |  |
| --- | --- |
| a. | 47 years |
| b. | 52 years |
| c. | 67 years |
| d. | 72 years |
| e. | 77 years |

\_\_\_\_ 99. All of the following reasons help explain why the United States has one of the highest infant mortality rates of developed countries, *except*

|  |  |
| --- | --- |
| a. | inadequate health care for pregnant poor women |
| b. | women delaying getting pregnant until later in life |
| c. | drug addiction among women |
| d. | high birth rate among teenagers |
| e. | inadequate health care for babies after birth |

\_\_\_\_ 100. An age structure graph represents the number or percentage of

|  |  |
| --- | --- |
| a. | reproductive age females |
| b. | reproductive age males and females |
| c. | non-reproductive age males and females |
| d. | economic status of reproductive males and females |
| e. | males and females among age groups in a population |

\_\_\_\_ 101. Problems associated with rapid population decline include all of the following *except*

|  |  |
| --- | --- |
| a. | less government revenues with fewer workers |
| b. | less business formation |
| c. | increased pensions and lowered retirement age |
| d. | less likelihood for new technology development |
| e. | increasing public deficits |

\_\_\_\_ 102. The author suggests that one of the most important statistics is that nearly 30% of the people on the planet are under 15 years of age. Why is this important?

|  |  |
| --- | --- |
| a. | Young people buy lots of goods and services. |
| b. | Young people will be the leadership of the future. |
| c. | Young people will feel the effects of global warming. |
| d. | Young people don't have good sense. |
| e. | Young people are poised to move into their prime reproductive years. |

\_\_\_\_ 103. Which of the following is *not* an effect of a high level of AIDS in a country?

|  |  |
| --- | --- |
| a. | loss of productive young workers |
| b. | loss of trained personnel |
| c. | increase in life expectancy |
| d. | loss of adults to support the young |
| e. | loss of adults to support the elderly |

\_\_\_\_ 104. Which of the following is *true* of demographic transition as countries become industrialized?

|  |  |
| --- | --- |
| a. | Death rates drop, followed by birth rates. |
| b. | Birth rates drop, followed by death rates. |
| c. | Birth and death rates rise at the same time. |
| d. | Birth and death rates fall at the same time. |
| e. | Neither birth nor death rates fall. |

\_\_\_\_ 105. China's population policy has included all of the following *except*

|  |  |
| --- | --- |
| a. | encouraging later marriages |
| b. | health, pension, and employment benefits for one-child families |
| c. | urging families to have no more than one child |
| d. | encouraging contraception but discouraging abortions |
| e. | providing free access to birth control |

\_\_\_\_ 106. Which of the following is *not* true about India?

|  |  |
| --- | --- |
| a. | One out of four people is poor. |
| b. | It has the second-fastest growing economy. |
| c. | 80% of rural people have adequate sanitation. |
| d. | Nearly one-half of the people are unemployed or underemployed. |
| e. | 40% of the population suffers from malnutrition. |

\_\_\_\_ 107. The rain shadow effect refers to

|  |  |
| --- | --- |
| a. | more light on the windward side of mountain ranges |
| b. | more moisture on the leeward side of mountain ranges |
| c. | moister conditions on the windward side of mountain ranges |
| d. | drier conditions on the windward side of mountain ranges |
| e. | less light available on the leeward side of mountain ranges |

\_\_\_\_ 108. The *most* important factor in determining which biome is found in a particular area is

|  |  |
| --- | --- |
| a. | soil type |
| b. | topography |
| c. | magnetic fields |
| d. | climate |
| e. | tidal activity |

\_\_\_\_ 109. The *two most* important factors determining the climate of an area are

|  |  |
| --- | --- |
| a. | temperature and wind |
| b. | temperature and precipitation |
| c. | precipitation and light |
| d. | light and temperature |
| e. | wind and light |

\_\_\_\_ 110. "Treeless, bitterly cold most of the year, winters are long and dark, low-growing plants, permafrost" are the characteristics of which of the following?

|  |  |
| --- | --- |
| a. | tall-grass prairie |
| b. | tundra |
| c. | short-grass prairie |
| d. | temperate grassland |
| e. | savanna |

\_\_\_\_ 111. Which of the following is *not* true of prairies?

|  |  |
| --- | --- |
| a. | Winds blow almost continuously. |
| b. | Evaporation is rapid. |
| c. | Fires in summer and fall are common. |
| d. | Prairies are typical of coastal regions of continents. |
| e. | Tree growth is hindered by fires and wind. |

\_\_\_\_ 112. Which of the following about temperate deciduous forests is *false*?

|  |  |
| --- | --- |
| a. | Average temperatures change significantly with the seasons. |
| b. | They are predominantly a few broadleaf deciduous tree species. |
| c. | They have been disturbed by humans more than any other land biome. |
| d. | They have nutrient-poor soil. |
| e. | Precipitation often spreads relatively evenly throughout the year. |

\_\_\_\_ 113. If you are walking through a forest dense with oak and hickory trees and thick with leaf litter underfoot, you would assume you are in a

|  |  |
| --- | --- |
| a. | tropical savanna |
| b. | temperate deciduous forest |
| c. | tropical rain forest |
| d. | temperate rain forest |
| e. | coniferous forest |

\_\_\_\_ 114. Which of the following is *not* a part of the degradation of forests by human activities?

|  |  |
| --- | --- |
| a. | clearing for agriculture |
| b. | overgrazing by livestock |
| c. | damage from off-road vehicles |
| d. | pollution of forest streams |
| e. | conversion of diverse forests to tree plantations |

\_\_\_\_ 115. Although only a small percentage of the ocean floor, coral reefs provide all the following benefits *except*

|  |  |
| --- | --- |
| a. | providing significant free oxygen |
| b. | removing CO2 from the atmosphere |
| c. | protecting coastlines from erosion |
| d. | providing habitats for one-quarter of all marine organisms |
| e. | providing one-fourth of fish catches in developing countries |

\_\_\_\_ 116. All of the following are part of the saltwater or marine aquatic life zones, *except*

|  |  |
| --- | --- |
| a. | oceans |
| b. | estuaries |
| c. | inland wetlands |
| d. | coastal wetlands |
| e. | shorelines |

\_\_\_\_ 117. Four of the following are key factors determining biodiversity in aquatic systems; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | availability of food |
| b. | availability of light and nutrients for photosynthesis |
| c. | dissolved oxygen content |
| d. | thickness of the ozone layer |
| e. | temperature |

\_\_\_\_ 118. All of the following are part of the freshwater aquatic life zones, *except*

|  |  |
| --- | --- |
| a. | lakes |
| b. | mangrove forests |
| c. | inland wetlands |
| d. | streams |
| e. | rivers |

\_\_\_\_ 119. A jellyfish would be considered a type of which of the following?

|  |  |
| --- | --- |
| a. | benthos |
| b. | zooplankton |
| c. | nekton |
| d. | phytoplankton |
| e. | ultraplankton |

\_\_\_\_ 120. Strongly swimming consumers would be part of which of the following?

|  |  |
| --- | --- |
| a. | phytoplankton |
| b. | zooplankton |
| c. | nekton |
| d. | benthos |
| e. | decomposers |

\_\_\_\_ 121. On a fishing boat, someone catches a swordfish. As a biologist, you would consider this organism a type of

|  |  |
| --- | --- |
| a. | phytoplankton |
| b. | zooplankton |
| c. | nekton |
| d. | benthos |
| e. | decomposer |

\_\_\_\_ 122. The key factors determining the types and numbers of organisms found in the various layers of both freshwater and marine systems include all of the following, *except*

|  |  |
| --- | --- |
| a. | parasitism |
| b. | availability of nutrients |
| c. | temperature |
| d. | dissolved oxygen levels |
| e. | availability of food |

\_\_\_\_ 123. Found along some 70% of gently sloping sandy and silty coastlines in tropical and subtropical regions, and consisting of some 69 species of trees, are the

|  |  |
| --- | --- |
| a. | seagrass beds |
| b. | barrier beaches |
| c. | barrier islands |
| d. | coral reefs |
| e. | mangrove forests |

\_\_\_\_ 124. Organisms in this area must be able to avoid being swept away, crushed by waves, or being left high and dry at low tides, and must survive daily or seasonal salinity and temperature changes.

|  |  |
| --- | --- |
| a. | estuaries |
| b. | coastal wetlands |
| c. | bathyal zone |
| d. | intertidal zone |
| e. | coral reefs |

\_\_\_\_ 125. The deepest part of the ocean is the

|  |  |
| --- | --- |
| a. | abyssal zone |
| b. | euphotic zone |
| c. | estuary zone |
| d. | bathyal zone |
| e. | benthic zone |

\_\_\_\_ 126. Most photosynthesis in the open ocean occurs in the

|  |  |
| --- | --- |
| a. | abyssal zone |
| b. | euphotic zone |
| c. | estuary zone |
| d. | bathyal zone |
| e. | benthic zone |

\_\_\_\_ 127. The zone in which you would expect to find deposit feeders along with oysters, clams, and sponges is the

|  |  |
| --- | --- |
| a. | euphotic zone |
| b. | abyssal zone |
| c. | coastal zone |
| d. | intertidal zone |
| e. | bathyal zone |

\_\_\_\_ 128. In large lakes there are four distinct zones. Which of the following is *not* one of those zones?

|  |  |
| --- | --- |
| a. | benthic |
| b. | littoral |
| c. | bathyal |
| d. | limnetic |
| e. | profundal |

\_\_\_\_ 129. In lakes, large numbers of decomposers are found in the

|  |  |
| --- | --- |
| a. | limnetic zone |
| b. | benthic zone |
| c. | littoral zone |
| d. | profundal zone |
| e. | abyssal zone |

\_\_\_\_ 130. If you fish for carp or catfish, you would likely need to fish in which part of a stream?

|  |  |
| --- | --- |
| a. | source zone |
| b. | benthic zone |
| c. | transition zone |
| d. | floodplain zone |
| e. | profundal zone |

\_\_\_\_ 131. Four of the following are ecological and economic services provided by inland wetlands; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | filtering and degrading toxic wastes and pollutants |
| b. | stopping the recharge of groundwater aquifers |
| c. | reducing flooding and erosion caused by storms |
| d. | helping to replenish stream flow during dry periods |
| e. | helping to maintain biodiversity by providing habitats |

\_\_\_\_ 132. A type of inland wetland that is dominated by grasses and reeds, with few trees, is

|  |  |
| --- | --- |
| a. | floodplains |
| b. | swamps |
| c. | marshes |
| d. | prairie potholes |
| e. | Arctic tundra |

\_\_\_\_ 133. John James Audubon, a 19th Century bird expert, once saw a flock of birds that took three days to fly past him, and darkened the skies as it past. The bird he saw was the

|  |  |
| --- | --- |
| a. | bald eagle |
| b. | starling |
| c. | house sparrow |
| d. | passenger pigeon |
| e. | California condor |

\_\_\_\_ 134. A 2005 report indicates humans have disturbed what percentage of the earth's land surface?

|  |  |
| --- | --- |
| a. | 11-34% |
| b. | 28-46% |
| c. | 39-58% |
| d. | 50-83% |
| e. | 71-97% |

\_\_\_\_ 135. An endangered species

|  |  |
| --- | --- |
| a. | may soon become extinct over all or most of its range |
| b. | is one that is evolving into another species |
| c. | is one that may become rare in the next 100 years |
| d. | may eventually become threatened or rare |
| e. | may be considered economically important but rare |

\_\_\_\_ 136. Four of the following are characteristics that make some species especially vulnerable to ecological and biological extinction. One of the following is not such a characteristic. Choose the one that is not a characteristic.

|  |  |
| --- | --- |
| a. | low reproductive rates |
| b. | small territories |
| c. | feeds at high trophic level |
| d. | narrow distribution |
| e. | rare |

\_\_\_\_ 137. Biologist E. O. Wilson suggests that the billions of years of evolution leading to the human species has left us with an inherent genetic kinship with the natural world, something he calls

|  |  |
| --- | --- |
| a. | Technophilia |
| b. | Biophilia |
| c. | Technophobia |
| d. | Biophobia |
| e. | Consilience |

\_\_\_\_ 138. Some biologists remind us the true foundation of the earth's ecosystems and ecological processes is made up of

|  |  |
| --- | --- |
| a. | plants |
| b. | top carnivores |
| c. | herbivores |
| d. | microorganisms |
| e. | consumers |

\_\_\_\_ 139. Pollen-eating and fruit-eating bats, especially on tropical islands, are

|  |  |
| --- | --- |
| a. | alien species |
| b. | indicator species |
| c. | generalists |
| d. | keystone species |
| e. | invasive species |

\_\_\_\_ 140. What percentage of the world's 10,000 bird species is declining in number?

|  |  |
| --- | --- |
| a. | 95% |
| b. | 70% |
| c. | 50% |
| d. | 33% |
| e. | 25% |

\_\_\_\_ 141. The biggest problem with invasive species is that in the new location they

|  |  |
| --- | --- |
| a. | are always bigger than native species |
| b. | have no population controls such as predators |
| c. | are always stronger than native species |
| d. | have higher reproductive rates than native species |
| e. | evolve more quickly than native species |

\_\_\_\_ 142. Four of the following are true about the plant "kudzu"; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | Provides a starch used in beverages and gourmet confections. |
| b. | Provides herbal remedies for several diseases. |
| c. | Can be controlled by normal weed control measures. |
| d. | Almost every part of the plant is edible. |
| e. | It is a source of fiber for paper that could replace use of trees. |

\_\_\_\_ 143. For every exotic live animal captured and sold in the pet market, approximately how many others are killed or die in transit?

|  |  |
| --- | --- |
| a. | 2 |
| b. | 5 |
| c. | 10 |
| d. | 25 |
| e. | 50 |

\_\_\_\_ 144. Four of the following are causes of an increase in hunting bushmeat; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | rapidly growing human population |
| b. | trying to make a living supplying restaurants with exotic meat |
| c. | spread of AIDS |
| d. | overfishing of ocean fish |
| e. | accessibility to remote areas |

\_\_\_\_ 145. CITES is a(n)

|  |  |
| --- | --- |
| a. | regulations controlling the introduction of exotic species |
| b. | treaty controlling the international trade in endangered species |
| c. | pact that supports critical ecosystems that support wildlife |
| d. | international organization dedicated to the preservation of endangered species |
| e. | policing agency for the protection of threatened species |

\_\_\_\_ 146. When the Endangered Species Act was established in 1973, the list included 92 U.S. species. In 2007, that number had risen to

|  |  |
| --- | --- |
| a. | 1,350 |
| b. | 500 |
| c. | 750 |
| d. | 1,000 |
| e. | 350 |

\_\_\_\_ 147. The group of animals receiving the most protection by the use of wildlife refuges are

|  |  |
| --- | --- |
| a. | small mammals |
| b. | migratory waterfowl |
| c. | large mammals |
| d. | songbirds |
| e. | reptiles |

\_\_\_\_ 148. Captive breeding programs in zoos

|  |  |
| --- | --- |
| a. | eliminate the need to preserve critical habitats |
| b. | can be used for most species except mammals |
| c. | require the captive population to number between 100 and 500 |
| d. | increase the genetic variability of species |
| e. | are very unsuccessful |

\_\_\_\_ 149. Some critics of the ESA suggest it has been a failure. Four of the following are reasons they give for that conclusion; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | The success rate of saving endangered species is not good. |
| b. | It takes too long to bring a species back from the edge of extinction. |
| c. | The number of species that are stable or improving is only about one-half. |
| d. | Only about 500 species have been saved. |
| e. | It is too costly. |

\_\_\_\_ 150. An old-growth forest would be defined as

|  |  |
| --- | --- |
| a. | a commercial forest older than 30 years |
| b. | a forest undisturbed for at least 50 years |
| c. | a second-growth forest undisturbed for at least 100 years |
| d. | a re-planted forest that has had little disturbance for 100 years |
| e. | an uncut or regenerated primary forest undisturbed for several hundred years |

\_\_\_\_ 151. Which of the following is *not* true of tree plantations?

|  |  |
| --- | --- |
| a. | They are biologically highly diverse. |
| b. | They can return a fast profit. |
| c. | They are usually clear cut when sufficiently mature. |
| d. | The trees are often used for paper or reconstituted wood substitute. |
| e. | The trees are uniformly aged. |

\_\_\_\_ 152. Four of the following are problems with tree plantations; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | Repeated cycles of cutting and replanting deplete soil nutrients. |
| b. | Soil may become so depleted it hinders any type of forest growth. |
| c. | They probably are more sustainable than old-growth or second-growth forests. |
| d. | They have less biodiversity than old-growth or second-growth forests. |
| e. | They are controversial because of genetically engineered tree species. |

\_\_\_\_ 153. Which of the following is *not* an economic service provided by forests?

|  |  |
| --- | --- |
| a. | fuelwood |
| b. | mining |
| c. | reduce erosion |
| d. | lumber |
| e. | recreation |

\_\_\_\_ 154. Clear-cutting does all of the following *except*

|  |  |
| --- | --- |
| a. | greatly increases water runoff |
| b. | increases loss of soil nutrients |
| c. | increases death of vegetation |
| d. | enhances habitat and biodiversity through loss of vegetation |
| e. | increases pollution of streams |

\_\_\_\_ 155. Which of the following is *not* true about surface fires?

|  |  |
| --- | --- |
| a. | They free valuable mineral nutrients tied up in decomposing litter. |
| b. | They release seeds from cones of lodgepole pines. |
| c. | They increase soil erosion. |
| d. | Wildlife requires surface fires to maintain their habitats. |
| e. | They help control diseases. |

\_\_\_\_ 156. The temporary or permanent removal of large expanses of forest for agriculture, or other uses, is called

|  |  |
| --- | --- |
| a. | reforestation |
| b. | deforestation |
| c. | selective cutting |
| d. | strip cutting |
| e. | sustainable harvesting |

\_\_\_\_ 157. Which of the following is *not* true of the world's boreal forests?

|  |  |
| --- | --- |
| a. | Contain less than 10,000 plant and animal species. |
| b. | Make up about one-fourth of the world's forested area. |
| c. | World's greatest terrestrial storehouse of organic carbon. |
| d. | Play a major role in climate regulation for the entire planet. |
| e. | Total area lost each year is twice the total area of Brazil's rain forests. |

\_\_\_\_ 158. Brazil's government has stated that the percentage of Amazon basin that has been deforested or degraded has increased from 1% in 1970 to \_\_\_\_% in 2005.

|  |  |
| --- | --- |
| a. | 2 |
| b. | 4 |
| c. | 8 |
| d. | 16 |
| e. | 32 |

\_\_\_\_ 159. Tropical forests in the Amazon basin and other South American countries are being cleared for

|  |  |
| --- | --- |
| a. | oil palm plantations |
| b. | cattle grazing and soybeans |
| c. | tropical hardwoods |
| d. | tropical fruits and nuts |
| e. | coffee and spices |

\_\_\_\_ 160. Burning tropical forests accounts for how much of the human-created greenhouse gas emissions?

|  |  |
| --- | --- |
| a. | 5% |
| b. | 10% |
| c. | 15% |
| d. | 20% |
| e. | 25% |

\_\_\_\_ 161. Four of the following are ways to grow and harvest trees more sustainably; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | No clear-cutting on steep slopes. |
| b. | No logging of old-growth forests. |
| c. | Identify and protect forest areas high in biodiversity. |
| d. | Leave most standing dead trees. |
| e. | Increase road building into uncut areas. |

\_\_\_\_ 162. Ecologists and forest fire experts recommend several strategies for reducing fire-related harm to forests and people. Which of the following is *not* one of those strategies?

|  |  |
| --- | --- |
| a. | Encourage growth of young trees and underbrush. |
| b. | Set small, contained surface fires in highest-risk forest areas. |
| c. | Allow fires on public lands to burn as long as they do not threaten lives. |
| d. | Thin a zone of 60 meters around houses and buildings in fire prone areas. |
| e. | Thin forest areas vulnerable to fire by clearing away fire-prone trees and underbrush. |

\_\_\_\_ 163. One of the reasons for cutting trees is to provide pulp for making paper. However, paper can be made from all of the following *except*

|  |  |
| --- | --- |
| a. | rice straw |
| b. | animal fats |
| c. | hemp |
| d. | agricultural residues |
| e. | kenaf |

\_\_\_\_ 164. Hemp and which other source of pulp require fewer pesticides and yield more pulp per hectare?

|  |  |
| --- | --- |
| a. | rice straw |
| b. | animal fats |
| c. | wood |
| d. | agricultural residues |
| e. | kenaf |

\_\_\_\_ 165. With only 2% of its forests remaining, which of the following countries has gone from tropical paradise to ecological disaster?

|  |  |
| --- | --- |
| a. | Jamaica |
| b. | Bermuda |
| c. | Haiti |
| d. | Cuba |
| e. | Virgin Islands |

\_\_\_\_ 166. Which of the following is *not* a major problem for U.S. public parks?

|  |  |
| --- | --- |
| a. | introduction of nonnative species |
| b. | killing of native species |
| c. | polluted air |
| d. | agricultural runoff |
| e. | deferred repairs of infrastructure |

\_\_\_\_ 167. Protected areas linking isolated reserves is a design called

|  |  |
| --- | --- |
| a. | habitat corridors |
| b. | buffer zone concept |
| c. | wilderness concept |
| d. | transition zones |
| e. | reserve concept |

\_\_\_\_ 168. Which of the following is a "superpower of biodiversity" with an estimated 500,000 plant and animal species?

|  |  |
| --- | --- |
| a. | Panama |
| b. | Nicaragua |
| c. | Costa Rica |
| d. | Guatemala |
| e. | El Salvador |

\_\_\_\_ 169. Large areas of undeveloped land that has not been seriously disturbed by humans is called

|  |  |
| --- | --- |
| a. | national parks |
| b. | reserves |
| c. | national forests |
| d. | biospheres |
| e. | wilderness |

\_\_\_\_ 170. Michael Rosenzweig suggests we need to learn how to share with other species the spaces we dominate. He calls this new form of conservation biology

|  |  |
| --- | --- |
| a. | reconciliation |
| b. | rehabilitation |
| c. | refurbishment |
| d. | community building |
| e. | formation building |

\_\_\_\_ 171. Which of the following is *not* a cause of the loss of biodiversity in Lake Victoria in East Africa?

|  |  |
| --- | --- |
| a. | increases in the population of the nonnative Nile perch |
| b. | increased poverty due to mechanized fishing |
| c. | depleted forests leading to increased runoff into the lake |
| d. | algal blooms from nutrient runoff from farms |
| e. | loss of native fish that normally eat algae increased effects of algal blooms |

\_\_\_\_ 172. The greatest marine biodiversity is located

|  |  |
| --- | --- |
| a. | in the bottom region of the ocean |
| b. | in the surface region of the ocean |
| c. | in the coastal region of the ocean |
| d. | in the open ocean |
| e. | in coral reefs |

\_\_\_\_ 173. By 2010 the UN projects that what percentage of the world's people will be living along or near the ocean coasts?

|  |  |
| --- | --- |
| a. | 80% |
| b. | 60% |
| c. | 50% |
| d. | 40% |
| e. | 20% |

\_\_\_\_ 174. Which of the following is defined as the area of ocean needed to sustain the consumption of an average person, a nation, or the world?

|  |  |
| --- | --- |
| a. | fishprint |
| b. | footprint |
| c. | resource demand |
| d. | ocean view |
| e. | ocean resource footprint |

\_\_\_\_ 175. When it appears that it is no longer profitable to continue fishing as a result of overfishing, the fish populations are said to be

|  |  |
| --- | --- |
| a. | locally extinct |
| b. | commercially extinct |
| c. | economically extinct |
| d. | biologically extinct |
| e. | ecologically extinct |

\_\_\_\_ 176. Four of the following are reasons protecting marine biodiversity is difficult; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | Human ecological footprint is expanding. |
| b. | Much of the damage is not visible to most people. |
| c. | Most of the global ocean lies outside boundaries of any country. |
| d. | There is no understanding of what needs to be done. |
| e. | People view the ocean as inexhaustible. |

\_\_\_\_ 177. What is CITES?

|  |  |
| --- | --- |
| a. | software for producing bibliographies |
| b. | a treaty banning trade in endangered species |
| c. | a treaty banning barrier island development |
| d. | a treaty banning overfishing |
| e. | a treaty banning gill nets |

\_\_\_\_ 178. The leatherback sea turtle survived the asteroid that killed off the dinosaurs but may become extinct because of human activities. Which of the following is *not* a threat to these turtles?

|  |  |
| --- | --- |
| a. | bottom trawling fishing |
| b. | being hunted for meat, leather, and eggs |
| c. | tourism |
| d. | becoming entangled in fishing nets and traps |
| e. | plastic bags |

\_\_\_\_ 179. Which of the following is an example of reconciliation ecology?

|  |  |
| --- | --- |
| a. | restoring a native coastal estuary by planting native vegetation |
| b. | purchasing development rights of coastal ecosystems |
| c. | negotiating land disputes among competing parties |
| d. | a restaurant owner cooperating with local conservation efforts in ecotourism |
| e. | passing laws regulating fishing rights |

\_\_\_\_ 180. Leading marine scientists suggest we need at least \_\_\_\_% of the world's oceans fully protected as marine reserves.

|  |  |
| --- | --- |
| a. | 67 |
| b. | 50 |
| c. | 33 |
| d. | 35 |
| e. | 13 |

\_\_\_\_ 181. In 2007 at a World Trade Organization meeting the United States proposed a ban on what financial activity in an attempt to reduce overfishing?

|  |  |
| --- | --- |
| a. | research grants |
| b. | fishing subsidies |
| c. | enforcement grants |
| d. | transportation subsidies |
| e. | satellite support costs |

\_\_\_\_ 182. Decades of degrading the Everglades has resulted in all of the following, *except*

|  |  |
| --- | --- |
| a. | 90% of wading birds have vanished. |
| b. | Populations of vertebrates such as deer are down 75-95%. |
| c. | Florida Bay, south of the everglades, has become saltier and warmer. |
| d. | Lake Okeechobee has been expanded. |
| e. | Algal blooms cover as much as 40% of Florida Bay. |

\_\_\_\_ 183. The goals of the Comprehensive Everglades Restoration Plan include all of the following, *except*

|  |  |
| --- | --- |
| a. | Restore the curving flow of the Kissimmee River. |
| b. | Build a series of massive dams to stop water leaving the Everglades. |
| c. | Remove 400 kilometers of canals and levees south of Lake Okeechobee. |
| d. | Buy 240 square kilometers of farmland and allow it to become marsh. |
| e. | Create 18 large reservoirs and underground storage areas. |

\_\_\_\_ 184. Which of the following is a major threat to biodiversity and ecological function of the Great Lakes?

|  |  |
| --- | --- |
| a. | invasive nonnative species |
| b. | ocean sea level rise |
| c. | saltwater intrusion |
| d. | acidification |
| e. | tourism |

\_\_\_\_ 185. Dams on the Columbia River have done all of the following *except*

|  |  |
| --- | --- |
| a. | provide inexpensive electricity |
| b. | supply water for major urban area |
| c. | provide water for irrigating agricultural land |
| d. | increase salmon populations |
| e. | provide flood control |

\_\_\_\_ 186. Sustainable management of freshwater fishes involves all of the following, *except*

|  |  |
| --- | --- |
| a. | supporting populations of commercial and sport fish species |
| b. | supporting introduction of commercially important nonnative species |
| c. | preventing over fishing |
| d. | building and stocking reservoirs and farm ponds |
| e. | fertilizing nutrient-poor lakes and ponds |

\_\_\_\_ 187. Freshwater ecosystems are under major threat by human activities. Which of the following is a part of that threat?

|  |  |
| --- | --- |
| a. | 40% of the world's rivers have been dammed or engineered. |
| b. | Vast portions of freshwater wetlands have been destroyed. |
| c. | Aquatic species have been crowded out of one-half of their habitats. |
| d. | Invasive species, pollution, and climate change threaten ecosystems. |
| e. | All of these are major threats. |

\_\_\_\_ 188. Which of the following would be *most* likely to view natural resources as important but not indispensable because of our ability to find substitutes?

|  |  |
| --- | --- |
| a. | neoclassical economics |
| b. | ecological economists |
| c. | environmental economists |
| d. | classical economists |
| e. | Marxist economists |

\_\_\_\_ 189. Which of the following statements is *false*?

|  |  |
| --- | --- |
| a. | Economists generally believe that unlimited economic growth is possible and desirable. |
| b. | Economists generally believe that resources are infinite in supply. |
| c. | Economists generally believe that our goal is to stay within carrying capacity of the environment. |
| d. | Economists generally believe that the world has an essentially infinite capacity to absorb, dilute, or degrade wastes. |
| e. | Economists generally believe that substitutes can be found. |

\_\_\_\_ 190. A free-market system operating without government interference requires that sellers

|  |  |
| --- | --- |
| a. | not coerce or mislead sellers or competitors |
| b. | provide all the goods and services possible |
| c. | not include all their indirect costs in the prices |
| d. | increase profits by pushing others out of business |
| e. | use all resources to their fullest |

\_\_\_\_ 191. Governments intervene in markets to do all of the following, *except*

|  |  |
| --- | --- |
| a. | prevent degradation of open-access resources |
| b. | protect people from fraud |
| c. | protect health and safety of workers and consumers |
| d. | manage public resources |
| e. | direct production of goods and services |

\_\_\_\_ 192. Car buyers and other people will pay all of the following harmful, external costs of producing a car, *except*

|  |  |
| --- | --- |
| a. | poorer health |
| b. | higher costs of insurance and health care |
| c. | greenhouse gases |
| d. | soil erosion |
| e. | land used for highways and parking |

\_\_\_\_ 193. Full-cost pricing is not widely used for all of the following reasons, *except*

|  |  |
| --- | --- |
| a. | Producers of harmful products would have to change. |
| b. | It is difficult to estimate environmental costs. |
| c. | Producers don't like the environment. |
| d. | Some businesses might go out of business. |
| e. | Most consumers do not connect environmental costs with the product. |

\_\_\_\_ 194. In order to phase in full-cost pricing, governments would need to use all of the following, *except*

|  |  |
| --- | --- |
| a. | levying taxes on environmentally harmful goods |
| b. | certifying environmentally beneficial goods and services |
| c. | passing laws to regulate pollution and resource depletion |
| d. | using tradable permits for reducing pollution and resource use |
| e. | using subsidies to cover producer costs |

\_\_\_\_ 195. Which of the following is *not* true about green taxes?

|  |  |
| --- | --- |
| a. | 70% of voters support green taxes when they are explained. |
| b. | U.S. Congress has not introduced green taxes because of lobbyists. |
| c. | Green taxes can reduce pollution and greenhouse gas emissions. |
| d. | Green taxes can reduce economic competitiveness. |
| e. | Green taxes can create many new jobs. |

\_\_\_\_ 196. Innovation-friendly regulation does all of the following, *except*

|  |  |
| --- | --- |
| a. | create a paperwork nightmare |
| b. | motivate companies to develop green products |
| c. | make companies more competitive in national markets |
| d. | enable companies to create new jobs |
| e. | increase international market competitiveness |

\_\_\_\_ 197. Tradable environmental permits have all of the following advantages, *except*

|  |  |
| --- | --- |
| a. | flexibility |
| b. | easy to administer |
| c. | self-monitoring of emissions can promote cheating |
| d. | permit prices determined by market transactions |
| e. | encourages pollution prevention and waste reduction |

\_\_\_\_ 198. Ray Anderson is known for

|  |  |
| --- | --- |
| a. | leasing organic solvents for chemical service companies |
| b. | leasing carpets |
| c. | designing a car-sharing network |
| d. | creating a company to recycle and recondition home appliances |
| e. | establishing the world's leading document service company |

\_\_\_\_ 199. Shifting back to a more localized production of food and other resources would lead to all of the following, *except*

|  |  |
| --- | --- |
| a. | reduced local environmental sustainability |
| b. | more stable source of jobs and income |
| c. | more profits circulating within each community |
| d. | reduced transportation fuel use |
| e. | reduced greenhouse gas emissions |

\_\_\_\_ 200. In 2004, the stock values of companies considered to be sustainability leaders performed in what fashion compared to the general stock market?

|  |  |
| --- | --- |
| a. | were drastically worse |
| b. | were 25% worse |
| c. | were about the same |
| d. | were about 25% better |
| e. | were dramatically better |