

Living Environment – Topic 7 Practice

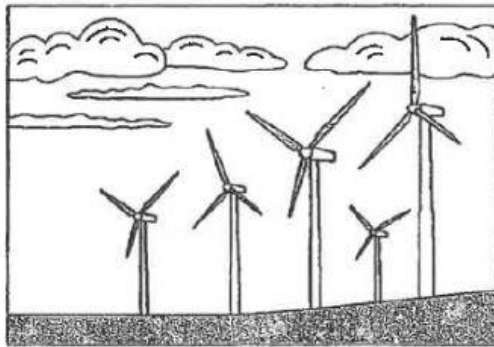
- 1) New fuels are being produced by converting corn and grasses into compounds containing alcohols that can be broken down for energy in various engines. The purpose of this research is to

A) reduce the use of finite resources
 B) cause a loss of biodiversity in the rain forests
 C) reduce the rate of homeostasis in organisms
 D) increase the rate of air pollution

- 2) A community is trying to decide on the location for a new shopping center. Two possible locations have been proposed, with each location having some benefits and some problems. The proper approach to deciding the *best* location would be to

A) compare the problems, but not the benefits
 B) select the site that would be the least expensive to develop
 C) select the site that could hold the most stores
 D) compare the trade-offs of building at either location

- 3) A ski resort installed a wind turbine similar to those represented below to supply some of its energy needs.



This turbine was most likely installed because wind power is

A) renewable and does minimal damage to the atmosphere
 B) renewable and does substantial damage to the atmosphere
 C) nonrenewable and does substantial damage to the atmosphere
 D) nonrenewable and does minimal damage to the atmosphere

- 4) Because of an attractive tax rebate, a homeowner decides to replace an oil furnace heating system with expensive solar panels. The trade-offs involved in making this decision include

A) low cost of solar panels, increased fuel costs, and higher taxes
 B) increased use of fuel, more stable ecosystems, and less availability of solar radiation
 C) high cost of solar panels, reduced fuel costs, and lower taxes
 D) more air pollution, increased use of solar energy, and

- 5) After the Aswan High Dam was built on the Nile River, the rate of parasitic blood-fluke infection doubled in the human population near the dam. As a result of building the dam, the flow of the Nile changed. This changed the habitat, which resulted in an increase in its population of a certain aquatic snail. The snails, which were infected, released larvae of the fluke. These larvae then infected humans.

The situation described in the reading passage *best* illustrates that

A) the influence of humans on a natural system is always negative in the long term
 B) human alteration of an ecosystem does not need to be studied to avoid ecological disaster
 C) the influence of humans on a natural system can have unpredictable negative impact
 D) human alteration of an ecosystem will cause pollution and loss of finite resources

Questions 6 and 7 refer to the following:

The food chain below involves organisms in Yellowstone National Park.

Grasses → Elk → Wolves

Wolves in the park were killed or driven off by humans in the 1920s and 1930s. In the winter of 1995, humans released 17 wolves from Canada into the park. A year later, 14 more wolves were released.

- 6) One possible reason that the wolves mentioned in the reading passage were released into the park was to

A) provide food for small predators
 B) reduce an overpopulation of elk
 C) eliminate unwanted autotrophs
 D) increase the number of herbivores

- 7) After the wolves mentioned in the reading passage were released, the populations of some scavengers increased. This was most likely due to

A) a decrease in the number of grasses
 B) an increase in water supplies
 C) a reduction in predator populations
 D) an increase in the number of dead elk

- 8) Which farming practice causes the *least* harm to the environment?

A) adding chemical fertilizers to all the crops in the area
 B) planting the same crop for 1 year on all the fields in the area
 C) using natural predators to reduce insect numbers
 D) planting the same crop in the same field each year for 10 years

- ___ 9) A wetland provides a variety of services for an ecosystem, such as filtering pollutants from the water, allowing animals to lay eggs and reproduce, and producing fertile soils for plants. When humans build houses on wetland areas, they always
- create new habitats for the wetland species
 - change this area so these processes can still take place
 - make changes that might not be reversible
 - transport the wetland species to a new area
- ___ 10) Which occurrence most likely led to the other three?
- At one time, rain forests covered 14 percent of Earth and today they cover only 6 percent.
 - Human population growth reached 6.8 billion in 2010 and it continues to increase.
 - The number of African elephants has declined from 1.2 million in 1979 to about 20,000 today.
 - Approximately 6,500 gallons of oil were spilled into a river in Illinois after a pipeline broke.
- ___ 11) Large rebates and low-cost loans have been made available to homeowners to install solar panels to heat their homes. The use of these incentives benefits ecosystems because it
- reduces the need for recycling
 - promotes the use of nonrenewable resources
 - encourages conservation of resources
 - discourages the use of alternative energy
- ___ 12) Which action by humans could improve the quality of the air?
- buying cars that get more miles per gallon of gasoline
 - increasing the number of coal-burning power plants that generate electricity
 - building homes that use only oil furnaces for heat
 - cutting down forests to clear land for factories
- ___ 13) Some data suggest that the average global temperature will increase by 1°C to 2°C by the year 2050. If this occurs, a major concern for humans would most likely be that
- long-term stability of the climate will benefit ecosystems
 - sea levels might rise enough to flood some coastal areas
 - the availability of salt water for agricultural use will increase
 - the threat of extinction of land organisms will decrease
- ___ 14) Most scientists recommend reducing carbon dioxide emissions. Less carbon dioxide in the atmosphere would be expected to
- reduce the rate of global warming
 - reduce destruction of the ozone layer
 - decrease the number of biotic factors in ecosystems
 - increase damage caused by acid rain
- ___ 15) As water flows downhill, its energy can be used to generate electricity. Later, this water may evaporate, fall as rain, and be used again to generate electricity in the same way. This explains why electricity generated with water is considered
- more expensive than nuclear energy
 - a renewable form of energy
 - a source of water pollution
 - responsible for global warming
- ___ 16) What is a human activity that would preserve finite resources?
- recycling aluminum
 - heating homes with fossil fuels
 - deforestation
 - removing carnivores from a forest
- ___ 17) Depletion of nonrenewable resources is often a result of
- reforestation
 - environmental laws
 - human population growth
 - recycling
- ___ 18) Which one of the following human activities would most likely deplete finite resources?
- development of wildlife refuges
 - uncontrolled population growth
 - governmental restriction of industrial pollution
 - use of natural enemies to eliminate insect pests
- ___ 19) Which method of protecting members of an endangered species is *most* ecologically sound?
- feeding and constructing shelters for these organisms
 - capturing these animals and putting them in wildlife parks
 - passing laws that encourage hunting of the predators of these species
 - protecting the habitats where these animals live from human development
- ___ 20) The increasing demands for fossil fuels has led government and businesses to consider several possibilities to solve the energy crisis. Which solution will reduce the impact of this crisis on the environment and future generations?
- increase the number of drilling sites for crude oil in North America
 - build more power plants away from population centers
 - limit the number of people in each vehicle
 - develop alternative fuel sources that can be produced from renewable resources
- ___ 21) One way humans can promote the survival of organisms in an ecosystem is to
- introduce new consumers to control autotrophs
 - decrease diversity in plant habitats
 - learn about the interactions of populations
 - release extra CO₂ into the atmosphere to help autotrophs

- ___ 22) Which one of the following actions would be least likely to harm endangered species?
- reducing the thickness of the ozone layer
 - releasing more carbon dioxide into the atmosphere
 - decreasing the amount of dissolved oxygen in the oceans
 - reducing the human population
- ___ 23) Environmentalists are hoping to protect endangered organisms by calling for a reduction in the use of pesticides, because loss of these organisms would
- increase the mutation rate in plants
 - reduce biodiversity in various ecosystems
 - decrease the space and resources available to other organisms
 - cause pesticides to become more toxic to insects
- ___ 24) DDT and other pesticides used over 50 years ago are still affecting the environment today. Scientists have found these substances in recent glacier runoff. Glacier runoff occurs during the summer, when precipitation that has fallen on glaciers during the winter is released. Ice layers from existing glaciers have been analyzed. The results of this analysis show that the concentrations of DDT and other pesticides were highest about 10 years after the use of these substances was banned.
- This information shows that
- DDT and other pesticides cause glacier runoff during the summer
 - precipitation helps to break down pesticides
 - the decision of one human generation may have an impact on future generations
 - it takes humans over 50 years to analyze a glacier
- ___ 25) In 1960, an invasive species of fish was introduced into the stable ecosystem of a river. Since then, the population of a native fish species has declined. This situation is an example of an
- ecosystem altered through the activities of an organism
 - environmental impact caused by physical factors
 - ecological niche without competition
 - ecosystem that has recovered
- ___ 26) Some people see the benefit of wind energy as a clean alternative to fossil fuels for energy production. Others believe it is dangerous for migratory birds. These opinions best illustrate that decisions about alternate energy sources
- must be made by taking into account the present needs of the citizens without looking toward the future
 - should be the responsibility of each individual
 - will usually favor older methods of energy production over newer methods
 - must be made by weighing the risks and costs against the benefits
- ___ 27) One environmental problem caused by the use of nuclear power as an energy source is the
- accumulation of CO₂ in the atmosphere
 - destruction of the ozone shield
 - production of acid rain
 - disposal of wastes
- ___ 28) A new bird species is introduced to control an insect pest. A negative consequence of this action is that the new bird species may
- cause an increase of pesticide-resistant insects
 - consume beneficial insects
 - disrupt mineral availability in the ecosystem
 - limit the population of the pest insect
- ___ 29) An increase in the amount of ultraviolet light entering the atmosphere through holes in the ozone layer will most likely
- result in rapid recycling of finite resources
 - prevent animal migration
 - cause an increase in the rate of certain mutations
 - reduce the rate of photosynthesis in fungi
- ___ 30) The release of products of combustion into the air often causes the formation of ozone near the surface of Earth. This ground-level ozone damages plants and affects their ability to absorb carbon dioxide. The doubling of ground-level ozone since 1850 is most likely due to
- emissions from vehicles and industrial processes
 - the extinction of certain animal species
 - a greater use of nuclear fuel
 - the chemical composition of the upper atmosphere
- ___ 31) The presence of wastes, such as plastic bags and motor oil, in lakes and streams miles away from developed areas suggests that
- ecosystems are interconnected and human action can alter ecosystem equilibrium
 - recycling programs have failed to conserve biotic resources
 - natural processes can alter ecosystem stability
 - direct harvesting practices have led to irreversible destruction of ecosystems