1. The ability of the environment to function indefinitely without declining from the stresses imposed by human activities is called:

A. ecology.

B. environmental sustainability.

C. natural balance.

D. synergism.

E. environmental science.

1. Which of the following represents an idea associated with environmental sustainability?

A. The capacity of the environment to absorb toxins is unlimited.

B. The human population continues to grow.

C. We are using fossil fuels as if they were present in unlimited supply.

D. The Earth's resources are not present in infinite supply

E. None of the above

1. Examples of non-sustainable human activities or behaviors include:

A. green architecture.

B. attempts to limit human population growth.

C. careful use of renewable resources.

D. use of nonrenewable resources as if they were present in unlimited quantities.

E. risk analysis.

1. In 1950, the largest city in the world, with 12.3 million inhabitants, was:

A. Bombay, India.

B. Madrid, Spain.

C. New York City, United States.

D. Shanghai, P.R. China.

E. London, England.

1. By 2000, the largest city in the world was ? with almost 27 million inhabitants.

A. New York City, United States

B. Tokyo, Japan

C. Mexico City, Mexico

D. Calcutta, India

E. Bombay, India

1. Which of the following is an abiotic factor of the environment?

A. living spaces

B. disease organisms

C. photosynthesis

D. producers

E. detritivores

1. A species is defined as:

A. organisms that live together.

B. organisms that live in the same area at the same time.

C. a group of similar organisms whose members freely interbreed with one another.

D. all of the organisms that live together in an area, plus the physical environment that they live in.

E. all organisms at a given trophic level within a particular community.

1. Which of the following series is organized according to the levels of organization used by ecologists?

A. population → ecosystem → community

B. species → community → abiotic factors

C. species → ecosystem → population

D. population → community → biotic factors

E. population → community → ecosystem

1. An ecosystem can be characterized as:

A. populations + community.

B. all species, population, and community interactions for organisms in a given area.

C. the abiotic components of the environment.

D. all of the biological interactions, plus interactions with the abiotic environment, in a given area.

E. interactions between physical processes and the abiotic environment.

1. The First Law of Thermodynamics states that:

A. energy can be created or destroyed by physical processes.

B. entropy always increases.

C. energy cannot be created or destroyed.

D. the organization of the universe is steadily increasing.

E. energy transfer between organisms is inefficient and much energy is lost.

1. Entropy is a measure of:

A. the amount of energy in a system.

B. the amount of work done.

C. the disorder in a system.

D. the efficiency of a system.

E. the rate of energy use in a system.

1. Which of the following is *not* a product of cellular respiration?

A. carbon dioxide

B. water

C. sugar

D. energy

E. A and B

8.Which of these organisms does *not* carry on photosynthesis?

A. algae

B. moss

C. mushroom

D. cactus

E. grass

9.Chemosynthesis supports which of the following ecosystems?

A. salt marsh

B. forest

C. estuary

D. desert

E. hydrothermal vent

10.Which of the following organisms are producers in hydrothermal vent communities?

A. bacteria

B. algae

C. fungi

D. moss

E. None of the above

11.Which of the following is a good example of a producer?

A. nutrient-rich water

B. a rabbit

C. an alga

D. a fungus

E. a saprotroph

12.A wolf is an example of:

A. a tertiary consumer.

B. an autotroph.

C. a saprotroph.

D. a herbivore.

E. an omnivore.

13.A secondary consumer would eat:

A. tertiary consumers.

B. fungi.

C. bacteria.

D. herbivores.

E. lions.

14.A primary consumer would eat:

A. secondary consumers.

B. plants.

C. bacteria.

D. herbivores.

E. rabbits.

15.All of the following refer to primary consumers *except*:

A. carnivore.

B. consumers that eat autotrophs.

C. rabbits.

D. herbivores.

E. second trophic level.

16.Which of the following is not *critical* for a balanced ecosystem?

A. decomposers

B. producers

C. plants

D. consumers

E. humans

17.Each level or "link" in a food chain or a food web is called:

A. a trophic level.

B. a consumer.

C. an energy flow unit.

D. an equivalent.

E. entropy.

18.The dominant herbivores in the Antarctic food web are:

A. baleen whales.

B. squid.

C. krill.

D. king and emperor penguins.

E. barnacles and mussels.

19.Which of the following is *not* a concern related to human impact on the Antarctic food web?

A. global warming

B. commercial whaling

C. thinning of the ozone layer

D. harvesting krill

E. None of the above, all are human impacts on the Antarctic

20.In a pyramid of numbers, the largest number of organisms would typically be found:

A. at the highest end of the food chain, with each lower trophic level occupied by fewer organisms.

B. at the highest end of the food chain, with each lower trophic level having the same number of organisms.

C. at the lowest end of the food chain, with each successive trophic level occupied by fewer organisms.

D. at the lowest end of the food chain, with each successive trophic level having the same number of organisms.

E. None of the above

21.In a pyramid of energy, the lowest quantity of energy ( kcal per m2), would be found in the:

A. producers.

B. primary consumers.

C. secondary consumers.

D. tertiary consumers.

E. herbivores.

22.Net primary productivity represents:

A. plant growth per unit area per unit time.

B. energy per unit area per unit time.

C. the energy available to herbivores.

D. amount of biomass found in excess of that broken down by a plant's cellular respiration.

E. All of the above

23.Which of the following is one of the most productive ecosystems?

A. swamps

B. agricultural land

C. tropical rainforest

D. open ocean

E. streams