Ecology in Action 1st edition Singer Test Bank

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Chapter 02

1. Which of the followings statements about the basic characteristics of biomes is accurate?
a. Terrestrial biomes are most influenced by temperature and the chemical composition of the water.
b. The boundaries of biomes are constantly changing.
c. Most organisms migrate too often to be considered part of any one biome.
d. All of Earth's biomes have been identified and roughly mapped by ecologists.
Answer: b

2. If an ecologist is measuring the primary production of an ecosystem, what is being measured?
a. the number of autotrophs
b. species richness
c. biomass
d. chemical energy
Answer: d

3. A recent study (Azevedo) suggested which biomes would lose biodiversity at the greatest rate from acid deposition?
a. tundras
b. tropical regions
c. temperate forests
d. coral reefs
Answer: b

4. Which of the following statements about atmospheric composition and pressure is accurate?
a. Warmer air results in higher-pressure systems.
b. High-pressure systems form the most rain.
c. There are more gas particles near to the Earth's surface than higher up.
d. Water condensation cannot form in the troposphere.
Answer: c

5. Which of the following happens in the Intertropical Conversion Zone?
a. Warm, moist air rises and moves north and south from the equator.
b. Dry, cool air descends, becomes warms, and helps produce major deserts.
c. Moist, cool air rises and drifts northward from the equator.
d. Cool, dry air from the poles meets at the equator and descends, warming as it goes.
Answer: a

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6. What does Li-Hung Lin's discovery of a subterranean biome suggest about biome classification?
a. The remaining biomes to be identified are likely terrestrial and beneath the Earth's surface.
b. Access, not subjectivity, makes classification of all biomes difficult.
c. We likely cannot know the number of biomes on the planet.
d. Ecologists can agree on strict boundaries for identified biomes.
Answer: c

7. Which of the following is a characteristic of tundras?
a. a thick canopy provided by dense hardwood trees
b. a nutrient-dense upper soil layer
c. low species diversity
d. cold winters and warm summers
Answer: c

8. Which of the following is a characteristic of the taiga (boreal forest) biome?
a. mild winters and hot summers
b. nutrient-rich soils
c. hard permafrost
d. relatively low plant diversity
Answer: d

9. Plants in temperate shrublands tend to be very well adapted to surviving
a. extreme cold.
b. human encroachment and development.
c. floods.
d. fires.
Answer: d

10. If a paleontologist wanted to study the history of species diversity in a region, she would likely first
a. take a sediment core sample from a local lake.
b. look at fossilized remains in the upper soil layers throughout the region.
c. study the DNA of contemporary available plants and animals.
d. study river patterns throughout the region.
Answer: a

11. Which of the following statements about the temperature properties of water biomes is accurate?
a. It takes much less solar energy to heat water than it does an equivalent piece of land.
b. Thermal stratification helps keep different layers of bodies of water at roughly the same temperature.
c. Oceans and lakes have a wider temperature range than equivalent terrestrial landmasses.

d. Water density decreases below 4 degrees Celsius.
Answer: d

12. The frozen form of water, particularly in Greenland and on the continent of Antarctica,
a. has the shortest average turnover time of the water reservoirs of Earth.
b. is the second largest water reservoir on Earth.
c. is not part of the hydrological cycle.
d. primarily enters the atmosphere through transpiration.
Answer: b

13. An oligotrophic lake is likely to
a. have a high nutrient density.
b. have relatively low levels of plankton.
c. have a high species diversity.
d. be shallow and in a warmer environment.
Answer: b

14. Which of the following is a characteristic or component of the open ocean biome?
a. a relative lack of productivity above the ocean floor
b. the species-rich continental shelf
c. a nutrient-poor benthic zone
d. high species diversity in deeper waters
Answer: a

15. Why are warming oceans resulting in more coral bleaching?
a. Warming temperatures eliminate nitrogen from the water, and coral reefs are very nitrogen-rich.
b. Higher temperatures cause invasive plankton to move into coral-rich areas.
c. Warmer temperatures reduce coral's typically high nutrient levels.
d. Higher temperatures cause corals to reject their zooxanthellae.
Answer: d

16. Which of the following is a characteristic of estuaries?
a. low levels of toxic pollutants
b. high species richness
c. highly fluctuating salinity
d. near-total lack of nitrogen availability
Answer: c

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17. Anthropogenic biomes are
a. biomes whose character has been untouched by human development.
b. biomes whose character has been determined by human development.
c. biomes with such low species richness that they are considered essentially barren.
d. biomes in which organic life is not supported.
Answer: b

18. Among most deserts, what is unique about the Atacama Desert in western Chile?
a. It is very rich with microhabitats.
b. It has a nutrient-rich soil.
c. It has an extremely high biodiversity.
d. It receives almost no rainfall.
Answer: d

19. Lianas are common to what biome?
a. tropical rainforest
b. tundra
c. coral reefs
d. temperate grasslands
Answer: a

20. What causes gyre deflection to the right in the oceans of the northern hemisphere?
a. the Coriolis effect
b. the Hadley cell
c. polar cells
d. conversion zones
Answer: a