

Chapter 50 Sample Questions & Answers:

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Important abiotic factors in ecosystems include which of the following?

I. temperature

II. water

III. wind

A) I only B) II only C) III only D) I and II only E) I, II, and III

2) All of the following statements about ecology are correct except:

A) Ecology is the study of the interactions between biotic and abiotic aspects of the environment.

B) Ecology is a discipline that is independent from natural selection and evolutionary history.

C) Ecologists may study populations and communities of organisms.

D) Ecology spans increasingly comprehensive levels of organization, from individuals to ecosystems.

E) Ecological studies may involve the use of models and computers.

3) Which of the following levels of organization is arranged in the correct sequence from most to least inclusive?

A) ecosystem, community, population, individual

B) community, ecosystem, individual, population

C) individual, population, community, ecosystem

D) population, ecosystem, individual, community

E) individual, community, population, ecosystem

4) Which of the following are important biotic factors that can affect the structure and organization of biological communities?

A) nutrient availability, soil pH, light intensity

B) precipitation, wind, temperature

C) predation, competition, disease

D) A and B only

E) A, B, and C

5) Landscape ecology is best described as the study of

A) the array of interacting species within a community.

B) abiotic factors and the community of species that exist in a particular area.

C) the factors affecting the abundance of single species.

D) physiological and behavioral ways in which organisms meet the challenges of their environment.

E) related arrays of ecosystems.

6) Ecology as a discipline directly deals with all of the following levels of biological organization except

A) community. B) population. C) organismal. D) cellular. E) ecosystem.

7) "How does the foraging of animals on tree seeds affect the distribution and abundance of the trees?" This question

A) is difficult to answer because a long-term experiment would be required.

B) is a valid ecological question.

C) is difficult to answer because a large experimental area would be required.

D) Both A and B are correct.

E) A, B, and C are correct.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) The total number of extant species is approximately

- A) 1,000 to 50,000.
- B) 50,000 to 150,000.
- C) 500,000 to 1,000,000.
- D) 10,000,000 to 80,000,000.
- E) 5-10 billion.

2) Which of the following most directly relates to the current biodiversity crisis?

- A) increased atmospheric carbon dioxide
- B) ozone depletion
- C) the rate of extinction
- D) introduced species
- E) zoned reserves

3) Which of the following terms includes all of the others?

- A) genetic diversity B) species diversity C) biodiversity D) ecosystem diversity

4) In order to better understand the extent of current extinctions it will be necessary to do which of the following?

- A) Focus intensely on identifying more species of mammals and birds.
- B) Monitor atmospheric carbon dioxide levels.
- C) Differentiate between plant extinction and animal extinction.
- D) Use the average extinction rates of vertebrates as a baseline.
- E) Identify more of the yet unknown species of organisms on our planet.

5) Estimates of current rates of extinction on

- A) indicate that we have reached a state of unstable equilibrium in which speciation and extinction rates are approximately equal.
- B) suggest that one-half of all animal and plant species may be gone by the year 2100.
- C) indicate that rates may be 1,000 times higher than at any other time in the last 100,000 years.
- D) B and C only are true.
- E) A, B, and C are true.

6) The most accurate assessments of current extinction rates probably come from studies of

- A) reptiles, because they are ectothermic and susceptible to population declines during frequent past glacial periods.
- B) birds and mammals, because they are relatively well-known taxa.
- C) marine invertebrates, because of their relatively long and complete fossil history.
- D) insects, because they comprise the vast majority of extant multicellular organisms.
- E) vascular plants, because they do not move around.

7) Which of the following would not qualify as an ecosystem service?

- A) rain falling to Earth
- B) squirrels burying acorns
- C) leaves falling on a forest floor
- D) blowfly larvae infesting a deer carcass
- E) bees pollinating an apple tree