Bio-Q1W3-Qs. Bank

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Which of the following might be a limiting factor in an organism's survival?
a. Temperature
b. Food availability
c. Abundance of predators
d. All of the above

____ 2. Certain bacteria are able to thrive in extremely acidic environments where most organisms could not survive. This is an example of different organisms having different —
a. tolerances.
b. biotic factors.
c. abiotic factors.
d. None of the above

____ 3. Which of the following is NOT true of succession?
a. It is predictable.
b. It is gradual.
c. It is orderly.
d. It is random.

____ 4. Before many plants can inhabit a rocky area, soil must be present. A pioneer species must start the process of soil formation for succession to take place. Which of the following would be a pioneer species in a rocky area?
a. Insect
b. Lichen
c. Weed
d. Fern

____ 5. After a community is disrupted by large-scale events, such as forest fires, a new community is established through the process of —
a. primary succession.
b. secondary succession.
c. soil formation.
d. None of the above

____ 6. Within aquatic biomes, there are many different environments where different types of organisms thrive. In general, aquatic biomes are divided into photic and aphotic zones. Which of the following determines whether a zone is photic or aphotic?
a. Distance from land
b. Distance from equator
c. Water depth
d. All of the above

____ 7. Terrestrial biomes are classified based on the types of organisms that develop within them. The organisms that make up a biome share the same type of —
a. biosphere.
b. ecosystem.
c. pioneer community.
d. climax community.

____ 8. Permafrost is characteristic of which biome?
a. Tundra
b. Marine
c. Desert
d. Taiga

____ 9. Which terrestrial biome houses the greatest biodiversity?
a. Taiga
b. Temperate forest
c. Tropical rain forest
d. Grassland

____ 10. Small organisms that live in the photic zone of aquatic biomes are —
a. plankton.
b. eubacteria.
c. autotrophic.
d. heterotrophic.

____ 11. An uncut lawn becomes a meadow and eventually a forest. This process is an example of _____.
a. aphotic zones
b. primary succession
c. estuary
d. secondary succession

____ 12. A girl notices that her guppies reproduce most when her fish tank water is slightly alkaline. They stop reproducing if the water becomes acidic or if the water becomes too alkaline. This is an example of _____.
a. secondary succession
c. communities

b. zones of tolerance and intolerance
d. intertidal zones

Ling feeds her guppies one-half teaspoon of fish food every day. The average guppy population in her aquarium over a four-month period is 38 guppies. She increased the food to one teaspoon per day. After a four-month period, the average population is 53 guppies.

____ 13. Which of the following statements is supported by these data?
a. The size of the aquarium was a limiting factor.
b. One-half teaspoon of food was a limiting factor.
c. As long as Ling keeps adding more food, the guppy population will continue to grow.
d. Guppies reproduce rapidly.

____ 14. When Ling increased the amount of food, what happened to the carrying capacity of the aquarium?
a. It increased.
b. It decreased.
c. It remained the same.
d. It increased and then decreased.

____ 15. The stable ecosystem that develops due to succession _____.
a. is called a niche
b. is always a forest
c. is called a climax community
d. never changes

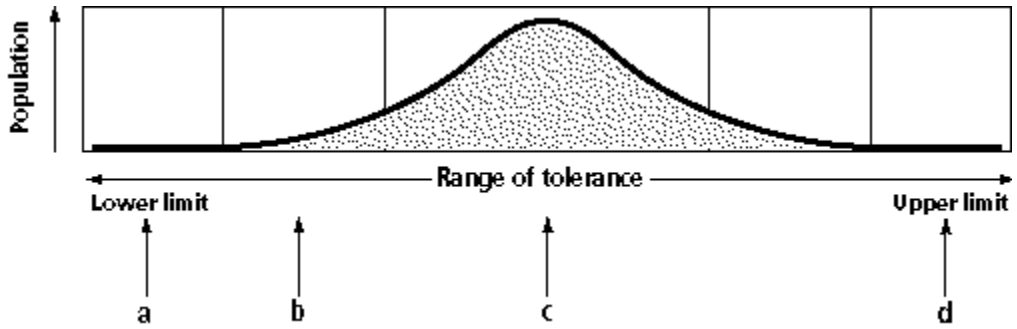

Figure 3-3

____ 16. In Figure 3-3, where will you be most likely to find the greatest diversity?
a. A
b. B
c. C
d. D

____ 17. In Figure 3-3, which section would have a lack of organisms due to an overabundance of resources?
a. A
b. B
c. C
d. D

____ 18. In Figure 3-3, which section would account for a lower number of organisms near the bottom of a pond due to a short supply of oxygen and sunlight?
a. A
b. B
c. C
d. D

____ 19. What type of succession is most likely to happen in Figure 3-4?

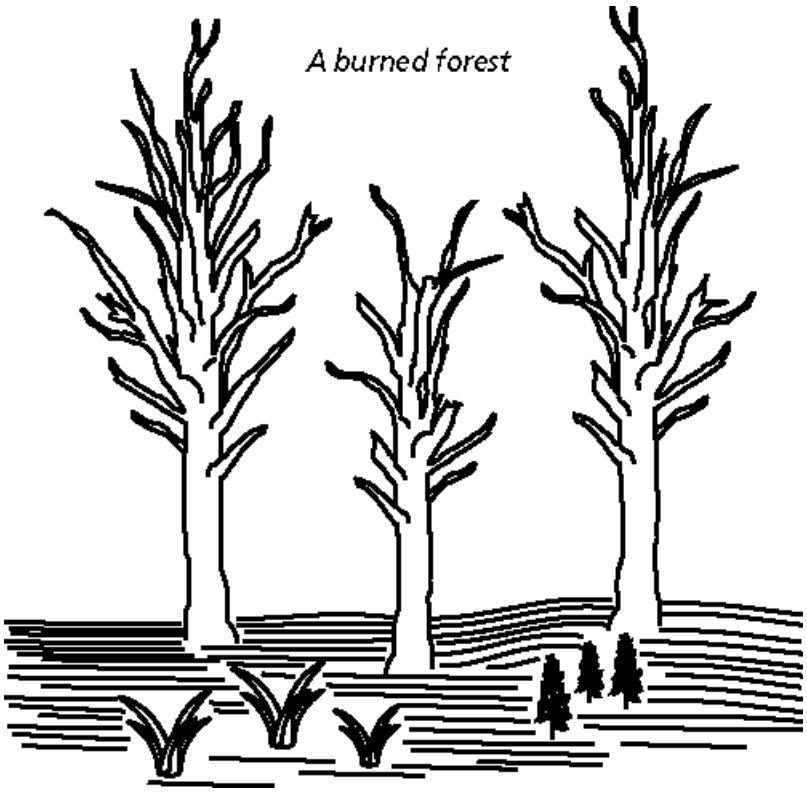

Figure 3-4

a. primary
b. secondary
c. teriary
d. climax

____ 20. If you released a new species of deer into each of the stages shown in Figure 3-5, in which stage would the species be most successful?

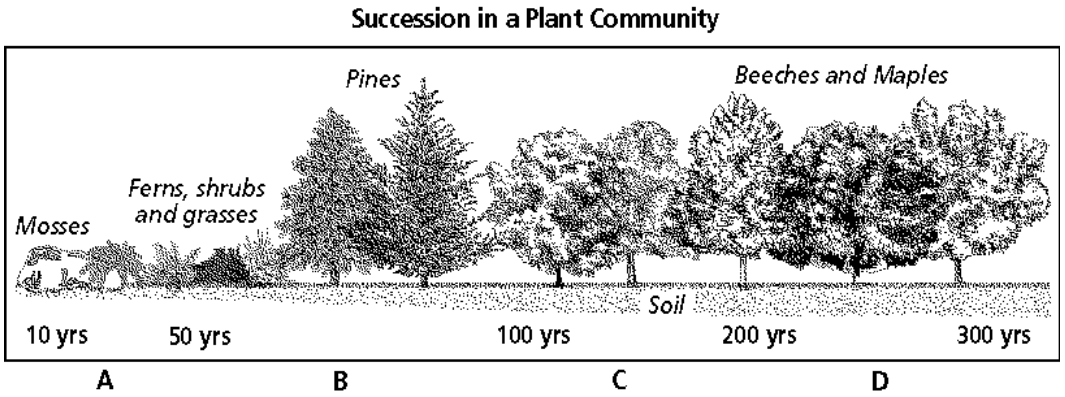

Figure 3-5

a. A
b. B
c. C
d. D

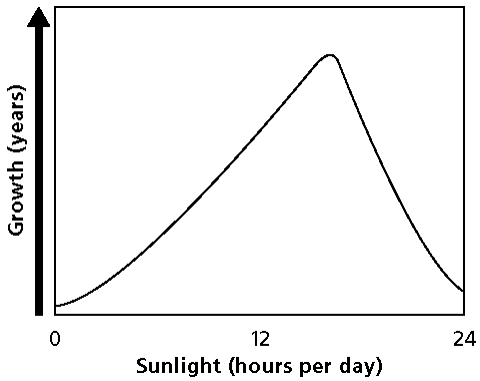

Figure 3-6

____ 21. Look at the graph in Figure 3-6. What does this graph tell us about this species of plant?
a. too much sunlight can hurt them
b. they thrive in a lot of sun
c. heat is damaging to them
d. they need plenty of water

____ 22. Look at the graph in Figure 3-6. Approximately how many hours of sunlight should these plants receive each day in order to make them grow at their optimum level?
a. 4
b. 12
c. 16
d. 20

____ 23. What would be the best time of the year to plant the organism described in Figure 3-6?
a. winter
b. spring
c. summer
d. fall

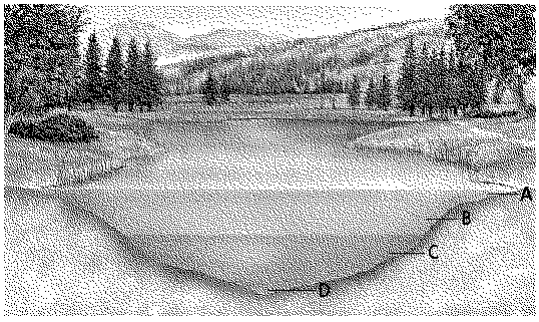

Figure 3-7

____ 24. You take a sample of species from the area labeled A in Figure 3-7. What would you expect to find?
a. almost no life
b. great species diversity
c. organisms that need very little oxygen
d. one dominant species of fish

____ 25. What type of species would be most likely found in the area labeled D in Figure 3-7?
a. one that requires plenty of oxygen
b. plants that require light
c. amphibians that need a warm habitat
d. decomposers that feed on dead organisms

Modified True/False
Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

____ 26. Herd animals are usually concentrated in the <u>forest biome</u>. _____

____ 27. The great northern coniferous forests are part of the <u>tundra biome</u>. _____

____ 28. Light intensity is a major limiting factor of the tundra biome. _____

____ 29. Phytoplankton, which obtain energy by photosynthesis, are usually found concentrated in the photic zone of the ocean. _____

____ 30. A pioneer community is usually the stable result of succession. _____

____ 31. Optimal factors restrict the numbers of organisms that can exist. _____

____ 32. Age, physical condition, and stage in its life cycle may all influence an organism's limits of tolerance. _____

____ 33. The range of factors under which an organism functions and survives is known as a limiting factor. _____

____ 34. The tundra is a region dominated by deciduous trees. _____

____ 35. A large group of ecosystems characterized by the same type of climax community is called a taiga. _____

____ 36. The colonization of new sites by communities of organisms is secondary succession. _____

____ 37. A pioneer community is a stable, mature community that undergoes little or no succession. _____

____ 38. Conditions that restrict the existence, population size, reproductive success, or distribution of organisms are called ranges of tolerance. _____

____ 39. The portion of the shoreline that is affected by high and low tides is the aphotic zone. _____

____ 40. The region of the ocean shallow enough for sunlight to penetrate is the photic zone. _____

____ 41. Succession is the replacement of one community by another as environmental conditions change. _____

____ 42. A body of water near the coast that is partly surrounded by land and contains both fresh and salt water is known as the intertidal zone. _____

____ 43. Humus is a layer of soil that remains frozen throughout the year. _____

____ 44. Microscopic organisms that float in the sunlit regions of the ocean are pioneer species. _____

____ 45. The tundra is an arid region characterized by little or no plant life. _____

Completion

Complete each statement.

46. _____ are succulent plants with thorns that are common in desert biomes.

47. The absence of permafrost and the presence of coniferous trees as the dominant climax plants characterize the _____.

48. The concentration of dissolved salt in estuary water would be between the concentration of salt in river water and _____ water.

49. Water temperature and light are two _____ factors that affect the tolerance range of organisms in a lake.

50. _____ are characterized by complex food webs, many different species of organisms, and little or no succession.

51. Fires, natural disasters, and human intervention are possible causes of _____.

52. In a _____ biome, decomposition occurs too quickly for humus to form.

53. Saltmarsh ecosystems are usually associated with _____.

54. The first organisms to appear in an area undergoing succession are known as _____.

55. _____ is the ability of an organism to withstand changes in abiotic and biotic factors in an ecosystem.

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Answer Section

MULTIPLE CHOICE

1. ANS: D
   A limiting factor is anything, biotic or abiotic, that restricts an organism's ability to survive in its environment.

   PTS: 1
2. ANS: A
   Organisms demonstrate a wide range of tolerance for different environmental conditions. The ability of certain bacteria to withstand extremely acidic conditions illustrates their tolerance for pH fluctuations.

   PTS: 1
3. ANS: D
   Succession is a highly ordered, predictable process of species replacement. Though it can take a great deal of time to occur, the order in which succession takes place is well understood by scientists.

   PTS: 1
4. ANS: B
   The first species to inhabit a given area is called a pioneer species. Lichens inhabit rocky areas and when they die, their decaying bodies initiate the first patches of soil.

   PTS: 1
5. ANS: B
   Secondary succession describes the process of succession on land that already has soil and was previously inhabited.

   PTS: 1
6. ANS: C
   Photic and aphotic zones are defined by the ability of sunlight to penetrate an area. The deeper the water, the less likely that sunlight will penetrate it.

   PTS: 1
7. ANS: D
   Terrestrial biomes are classified by the type of climax community that is established under different environmental conditions, such as temperature and precipitation.

   PTS: 1
8. ANS: A
   In the tundra, only the topmost layer of soil thaws in the summer. Underneath this soil is a layer of permanently frozen ground. This is called permafrost.

   PTS: 1
9. ANS: C
   Because of the unique combination of conditions present in the tropical rain forest, this biome offers more biodiversity than any other.

PTS: 1

10. ANS: A
Plankton are the primary organisms present in aquatic biomes. They live in the photic zone and include both autotrophs and heterotrophs.

PTS: 1

11. ANS: D PTS: 1 DIF: B OBJ: 3-4
NAT: C5

12. ANS: B PTS: 1 DIF: B OBJ: 3-2
NAT: C5 | C6 | F5

13. ANS: B PTS: 1 DIF: B OBJ: 3-1
NAT: F3

14. ANS: A PTS: 1 DIF: B OBJ: 3-2
NAT: C5 | C6 | F5

15. ANS: C PTS: 1 DIF: B OBJ: 3-4
NAT: C5

16. ANS: C PTS: 1 DIF: A OBJ: 3-2
NAT: C5 | C6 | F5

17. ANS: D PTS: 1 DIF: A OBJ: 3-2
NAT: C5 | C6 | F5

18. ANS: B PTS: 1 DIF: A OBJ: 3-2
NAT: C5 | C6 | F5

19. ANS: B PTS: 1 DIF: B OBJ: 3-4
NAT: C5

20. ANS: D PTS: 1 DIF: A OBJ: 3-4
NAT: C5

21. ANS: A PTS: 1 DIF: A OBJ: 3-6
NAT: C4 | C5 | C6

22. ANS: C PTS: 1 DIF: A OBJ: 3-6
NAT: C4 | C5 | C6

23. ANS: C PTS: 1 DIF: A OBJ: 3-6
NAT: C4 | C5 | C6

24. ANS: B PTS: 1 DIF: B OBJ: 3-5
NAT: C4 | C5 | C6

25. ANS: D PTS: 1 DIF: A OBJ: 3-5
NAT: C4 | C5 | C6

MODIFIED TRUE/FALSE

26. ANS: F, grassland biome

PTS: 1 DIF: B OBJ: 3-7 NAT: C4 | C5 | C6

27. ANS: F, taiga biome

PTS: 1 DIF: B OBJ: 3-7 NAT: C4 | C5 | C6

28. ANS: F, Temperature

PTS: 1 DIF: B OBJ: 3-6 NAT: C4 | C5 | C6

29. ANS: T PTS: 1 DIF: B
OBJ: 3-5 NAT: C4 | C5 | C6

30. ANS: F, climax community

PTS: 1 DIF: B OBJ: 3-3 NAT: C5 | C6 | F5

31. ANS: F, Limiting

PTS: 1 DIF: B OBJ: 3-1 NAT: F3

32. ANS: T PTS: 1 DIF: B
OBJ: 3-1 NAT: F3

33. ANS: F, tolerance

PTS: 1 DIF: B OBJ: 3-2 NAT: C5 | C6 | F5

34. ANS: F, temperate or deciduous forest

PTS: 1 DIF: B OBJ: 3-7 NAT: C4 | C5 | C6

35. ANS: F, biome

PTS: 1 DIF: B OBJ: 3-7 NAT: C4 | C5 | C6

36. ANS: F, primary

PTS: 1 DIF: B OBJ: 3-3 NAT: C5 | C6 | F5

37. ANS: F, climax community

PTS: 1 DIF: B OBJ: 3-4 NAT: C5

38. ANS: F, limiting factors

PTS: 1 DIF: B OBJ: 3-6 NAT: C4 | C5 | C6

39. ANS: F, intertidal

PTS: 1 DIF: B OBJ: 3-5 NAT: C4 | C5 | C6

40. ANS: T PTS: 1 DIF: B
OBJ: 3-5 NAT: C4 | C5 | C6

41. ANS: T PTS: 1 DIF: B
OBJ: 3-3 NAT: C5 | C6 | F5

42. ANS: F, estuary

PTS: 1 DIF: B OBJ: 3-5 NAT: C4 | C5 | C6

43. ANS: F, Permafrost

PTS: 1 DIF: B OBJ: 3-6 NAT: C4 | C5 | C6

44. ANS: F, plankton

PTS: 1 DIF: B OBJ: 3-1 NAT: F3

45. ANS: F, desert

PTS: 1 DIF: B OBJ: 3-7 NAT: C4 | C5 | C6

COMPLETION

46. ANS: Cacti

PTS: 1 DIF: B OBJ: 3-7 NAT: C4 | C5 | C6

47. ANS: taiga

PTS: 1 DIF: B OBJ: 3-6 NAT: C4 | C5 | C6

48. ANS: ocean

PTS: 1 DIF: B OBJ: 3-5 NAT: C4 | C5 | C6

49. ANS: abiotic

PTS: 1 DIF: B OBJ: 3-2 NAT: C5 | C6 | F5

50. ANS: Climax communities

PTS: 1 DIF: B OBJ: 3-3 NAT: C5 | C6 | F5

51. ANS: secondary succession

PTS: 1 DIF: B OBJ: 3-3 NAT: C5 | C6 | F5

52. ANS: tropical rain forest

PTS: 1 DIF: B OBJ: 3-7 NAT: C4 | C5 | C6

53. ANS: estuaries

PTS: 1 DIF: B OBJ: 3-5 NAT: C4 | C5 | C6

54. ANS: pioneer species

PTS: 1 DIF: B OBJ: 3-4 NAT: C5

55. ANS: Tolerance

PTS: 1 DIF: B OBJ: 3-1 NAT: F3