**Review for 13 & 20 APES**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

1. The lack of sufficient water to meet the needs of the people in a country or region is called

|  |  |
| --- | --- |
| a. | water deficit |
| b. | water shortage |
| c. | hydrological poverty |
| d. | hydrological shortage |
| e. | hydrologic cycle |

2. Ethiopia and the Sudan plan to divert more water from the Nile River, which supplies Egypt with 97% of its water. Four of the following are options Egypt has to meet its water needs; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | Divert water from another of its rivers. |
| b. | Import more grain to reduce having to irrigate. |
| c. | Go to war with Ethiopia and Sudan. |
| d. | Cut its rapid population growth. |
| e. | Work out water sharing agreements. |

3. The world's single largest cause of illness is

|  |  |
| --- | --- |
| a. | malaria |
| b. | typhoid |
| c. | mosquitoes |
| d. | poor health |
| e. | unsafe water |

4. What percentage of the earth's surface is covered by water?

|  |  |
| --- | --- |
| a. | 86% |
| b. | 71% |
| c. | 67% |
| d. | 58% |
| e. | 52% |

5. What percentage of the world's water supply is liquid freshwater that is available to living organisms?

|  |  |
| --- | --- |
| a. | 24% |
| b. | 20% |
| c. | 10% |
| d. | 0.024% |
| e. | 0.000024% |

6. The movement of water in the seas, air, and on land that is driven by solar energy and gravity is called

|  |  |
| --- | --- |
| a. | water cycle |
| b. | hydraulic cycle |
| c. | hydrologic cycle |
| d. | fluid cycle |
| e. | water treatment cycle |

7. Which of the following is *false*?

|  |  |
| --- | --- |
| a. | Recharging of groundwater is a slow process. |
| b. | The water table moves down in dry weather. |
| c. | Water in a confined aquifer is under pressure. |
| d. | Groundwater is stationary, it does not move. |
| e. | The water table is the top of the zone of saturation. |

8. At a certain depth, the area where the spaces in soil and rock are completely filled with water is called

|  |  |
| --- | --- |
| a. | the zone of saturation |
| b. | the water table |
| c. | an aquifer |
| d. | surface water |
| e. | the bedrock |

9. The geological layer, consisting of underground caverns and porous layers of sand, gravel, or bedrock, where groundwater flows, is called

|  |  |
| --- | --- |
| a. | the zone of saturation |
| b. | the water table |
| c. | an aquifer |
| d. | surface water |
| e. | the bedrock |

10. The land from which surface water drains into a particular lake, river, or other body of water is called

|  |  |
| --- | --- |
| a. | the zone of saturation |
| b. | the water table |
| c. | an aquifer |
| d. | surface water |
| e. | the bedrock |

11. What percentage of the world's reliable surface runoff is currently being withdrawn?

|  |  |
| --- | --- |
| a. | 10% |
| b. | 18% |
| c. | 22% |
| d. | 34% |
| e. | 45% |

12. What percentage of water withdrawn from lakes, streams, and rivers is used by cities and residences?

|  |  |
| --- | --- |
| a. | 10% |
| b. | 20% |
| c. | 50% |
| d. | 70% |
| e. | 80% |

13. Affluent lifestyles use a lot of water. For example, how much water does it take to make one automobile?

|  |  |
| --- | --- |
| a. | 450,000 gallons |
| b. | 120,000 liters |
| c. | 120,000 gallons |
| d. | 45,000 liters |
| e. | 45,000 gallons |

14. Throughout the world, the majority of water is used for

|  |  |
| --- | --- |
| a. | industrial uses |
| b. | animals and humans |
| c. | transportation |
| d. | irrigation |
| e. | cooling towers of power plants |

15. By 2013 at least 36 U.S. states are likely to face water shortages for all of the following reasons, *except*

|  |  |
| --- | --- |
| a. | drought |
| b. | cooling temperatures |
| c. | population growth |
| d. | urban sprawl |
| e. | waste of water |

16. What percentage of China's cities are already facing water shortages?

|  |  |
| --- | --- |
| a. | 25% |
| b. | 33% |
| c. | 50% |
| d. | 67% |
| e. | 100% |

17. Four of the following are harmful environmental effects of a severe drought; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | dries out soil |
| b. | reduces moisture in the air from evaporation |
| c. | reduces stream flows |
| d. | decreases tree growth and biomass |
| e. | reduces crop yields |

18. Most water resources are owned by

|  |  |
| --- | --- |
| a. | individuals |
| b. | large multinational corporations |
| c. | cooperatives |
| d. | states |
| e. | governments |

19. Aquifers provide drinking water for how much of the world's population?

|  |  |
| --- | --- |
| a. | 25% |
| b. | 33% |
| c. | 50% |
| d. | 67% |
| e. | 75% |

20. Saudi Arabia gets 70% of its drinking water from

|  |  |
| --- | --- |
| a. | deep aquifers |
| b. | water imports |
| c. | dammed rivers |
| d. | desalinization |
| e. | lakes |

21. The United States is withdrawing groundwater from aquifers at a rate that is \_\_\_\_ times faster than it can be recharged.

|  |  |
| --- | --- |
| a. | 2 |
| b. | 3 |
| c. | 4 |
| d. | 5 |
| e. | 10 |

22. The water table for parts of the massive Ogallala aquifer has dropped as much as \_\_\_\_ meters as a result of the water being withdrawn for irrigation.

|  |  |
| --- | --- |
| a. | 5 |
| b. | 10 |
| c. | 15 |
| d. | 20 |
| e. | 30 |

23. The term *subsidence* refers to

|  |  |
| --- | --- |
| a. | failure of the groundwater supply |
| b. | accumulation of silt behind a dam |
| c. | sinking of ground when water has been withdrawn |
| d. | intrusion of salt water into a freshwater aquifer |
| e. | money paid by the government to farmers |

24. Withdrawing too much water from an aquifer can cause all of the following *except*

|  |  |
| --- | --- |
| a. | droughts |
| b. | land subsidence |
| c. | sinkholes |
| d. | freshwater contaminated with saltwater |
| e. | having to dig deeper and deeper irrigation wells |

25. The main goals of a dam and reservoir include all of the following, *except*

|  |  |
| --- | --- |
| a. | generate electricity |
| b. | clean the water |
| c. | supply water for cities and agriculture |
| d. | provide recreational activities |
| e. | control floods |

26. Four of the following are disadvantages of dam and reservoir systems; one is not. Choose the one that is not.

|  |  |
| --- | --- |
| a. | disrupts migrations of fish |
| b. | displaces people behind the dam |
| c. | leads to devastating flooding if there is a failure |
| d. | reduces water loss through evaporation |
| e. | reduces nutrients released downstream |

27. Because of greatly increased irrigation, Africa's Lake Chad has shrunk by \_\_\_\_% since the 1960s.

|  |  |
| --- | --- |
| a. | 46 |
| b. | 56 |
| c. | 76 |
| d. | 86 |
| e. | 96 |

28. There are four major problems associated with the use of the Colorado River's water. Which one of the following is *not* one of those problems?

|  |  |
| --- | --- |
| a. | Mexico and the U.S. have agreed to take more water than the river has. |
| b. | The river does not have much of a flow considering its size. |
| c. | The river gets most of its water from mountain snow melt. |
| d. | Water seldom makes it to the mouth of the river. |
| e. | The Colorado River basin includes some of the driest areas in the U.S. |

29. China's Three Gorges Dam

|  |  |
| --- | --- |
| a. | will be the world's largest hydroelectric plant |
| b. | will displace only a few people |
| c. | will not destroy many towns or villages |
| d. | will increase usable habitat for endangered pandas |
| e. | will have a very long productive life |

30. Which of the following is *not* one of the disadvantages of the Three Gorges Dam project?

|  |  |
| --- | --- |
| a. | An earthquake could cause a flood killing millions. |
| b. | Large cargo ships can travel far inland. |
| c. | May become a sewer as cities dump untreated sewage into it. |
| d. | May release large amounts of methane gas. |
| e. | Has flooded many cultural and archeological sites. |

31. Which of the following *is not* true of the disaster that befell the Aral Sea?

|  |  |
| --- | --- |
| a. | Surface level of the sea has dropped by 22 meters. |
| b. | Caused by a water diversion project. |
| c. | Shrinkage of the Aral Sea has altered local climate. |
| d. | Populations of local animal species have remained stable. |
| e. | Salt and sand from the dry sea bottom spread as far as 300 kilometers. |

32. One method of desalination uses high pressure to force saltwater through a membrane filter. This method is called

|  |  |
| --- | --- |
| a. | diffusion |
| b. | distillation |
| c. | reverse osmosis |
| d. | active transport |
| e. | passive transport |

33. Which of the following is *not* a problem of desalination?

|  |  |
| --- | --- |
| a. | Reduces soil salinization on irrigated lands. |
| b. | High cost. |
| c. | Reduces important ions that are essential to plant growth. |
| d. | Result of desalination is concentrated brine that must be disposed of. |
| e. | Requires a large input of energy to accomplish. |

34. According to water resource experts, the main cause of water waste is

|  |  |
| --- | --- |
| a. | leakage |
| b. | long showers |
| c. | old toilets |
| d. | dishwashers |
| e. | cheap prices |

35. Which of the following offers the greatest conservation of water?

|  |  |
| --- | --- |
| a. | center-pivot sprinkler systems |
| b. | low-energy precision-application (LEPA) sprinkler systems |
| c. | trickle or drip irrigation |
| d. | gravity-flow canal systems |
| e. | diagonal-pivot systems |

36. Which of the following is *not* one of the solutions for water waste?

|  |  |
| --- | --- |
| a. | night irrigation |
| b. | discourage organic farming |
| c. | irrigate with treated urban waste water |
| d. | line canals brining water to irrigation ditches |
| e. | avoid growing water-thirsty crops in dry areas |

37. Developing countries use all of the following low-tech methods for irrigation, *except*

|  |  |
| --- | --- |
| a. | rainwater harvesting |
| b. | planting deep-rooted perennial crop varieties |
| c. | mulching fields |
| d. | using monoculture instead of polyculture farming |
| e. | harvest fog with fog catcher nets |

38. All of the following are available to improve water efficiency, *except*

|  |  |
| --- | --- |
| a. | xeriscaping |
| b. | using gray water to irrigate lawns and nonedible plants |
| c. | using drip irrigation for lawns |
| d. | condensing water vapor from indoor air |
| e. | recycling water for use in industry |

39. One of the major human activities that has contributed to flooding is

|  |  |
| --- | --- |
| a. | constructing dams |
| b. | directing stream flow |
| c. | destroying vegetation |
| d. | irrigation |
| e. | urbanization |

40. One of the most important and effective ways to reduce flooding is to

|  |  |
| --- | --- |
| a. | preserve and restore wetlands |
| b. | straighten and deepen streams |
| c. | build floodwalls |
| d. | encourage people to build on floodplains |
| e. | build dams |

41. Lake Washington, near Seattle, was degraded by the growth of which of the following?

|  |  |
| --- | --- |
| a. | coliform bacteria |
| b. | protozoans |
| c. | snails |
| d. | aquatic plants |
| e. | cyanobacteria |

42. The degradation of Lake Washington resulted from the introduction by sewage treatment plants of which of the following?

|  |  |
| --- | --- |
| a. | phosphorus |
| b. | nitrogen |
| c. | oxygen |
| d. | chlorine |
| e. | fecal material |

43. When researchers studying Lake Washington got no action from treatment plant managers, they did which of the following?

|  |  |
| --- | --- |
| a. | went on to something new |
| b. | went to the Washington State legislature for help |
| c. | went to the EPA for help |
| d. | educated the public |
| e. | wrote more scientific articles |

44. Which of the following is by far the leading cause of water pollution?

|  |  |
| --- | --- |
| a. | mining |
| b. | factories |
| c. | sewage treatment plants |
| d. | agriculture activities |
| e. | ocean-going shipping |

45. The World Health Organization (WHO) estimates how many people on earth do not have access to clean drinking water?

|  |  |
| --- | --- |
| a. | 1 out of 100 |
| b. | 1 out of 50 |
| c. | 1 out of 20 |
| d. | 1 out of 10 |
| e. | 1 out of 6 |

46. Of the following organisms, the group that is *least* likely to cause disease is

|  |  |
| --- | --- |
| a. | bacteria |
| b. | protozoa |
| c. | algae |
| d. | parasitic worms |
| e. | viruses |

47. A good indicator of water quality is the number of

|  |  |
| --- | --- |
| a. | ducks |
| b. | fish |
| c. | turtles |
| d. | coliform bacteria |
| e. | protozoa |

48. To be considered safe for drinking, a 100 milliliter sample of water should contain \_\_\_\_ colonies of coliform bacteria.

|  |  |
| --- | --- |
| a. | 0 |
| b. | 5 |
| c. | 10 |
| d. | 100 |
| e. | 200 |

49. To be considered safe for swimming, a 100 milliliter sample of water should contain \_\_\_\_ or fewer colonies of coliform bacteria.

|  |  |
| --- | --- |
| a. | 0 |
| b. | 5 |
| c. | 10 |
| d. | 100 |
| e. | 200 |

50. A body of water can be depleted of its oxygen by

|  |  |
| --- | --- |
| a. | viruses and parasitic worms |
| b. | organic wastes |
| c. | sediments and suspended matter |
| d. | organic compounds such as oil, plastics, solvents, and detergents |
| e. | inorganic wastes |

51. Which of the following is a point source of water pollution?

|  |  |
| --- | --- |
| a. | offshore oil wells |
| b. | livestock feedlots |
| c. | urban lands |
| d. | croplands |
| e. | parking lots |

52. Which of the following is a nonpoint source of water pollution?

|  |  |
| --- | --- |
| a. | sewage treatment plant |
| b. | electric power plant |
| c. | active and inactive coal mine |
| d. | logged forest |
| e. | factory |

53. To determine the presence and concentration of water pollutants, scientists are *least* likely to use

|  |  |
| --- | --- |
| a. | chemical analysis of water samples |
| b. | satellite photographs |
| c. | analysis of indicator species |
| d. | genetically engineered bacteria and yeasts |
| e. | chemical analysis of sediment |

54. Which of the following statements is *false*?

|  |  |
| --- | --- |
| a. | Because of their flow, most streams can recover rapidly from pollution by heat and biodegradable waste. |
| b. | In rapidly flowing rivers, dissolved oxygen is replaced quickly. |
| c. | The amount of oxygen in rivers declines in dry seasons. |
| d. | The amount of oxygen in rivers increases as the water's temperature rises. |
| e. | The amount of oxygen in rivers increases as the water's temperature falls |

55. Oxygen sag curves

|  |  |
| --- | --- |
| a. | may occur during spring floods |
| b. | occur when oxygen-demanding wastes are added to the water |
| c. | develop in fast-flowing rivers |
| d. | may occur upstream from a sewage treatment plant |
| e. | all of these |

56. Which of the following statements is *false*?

|  |  |
| --- | --- |
| a. | Requiring cities to withdraw water downstream of the city would reduce pollution. |
| b. | Slow-flowing rivers are less susceptible to pollutants than fast-flowing streams. |
| c. | The width and depth of the oxygen sag curve is dependent on water volume and flow rate. |
| d. | Streams can recover from degradable pollutants as long as they are not overloaded. |
| e. | Oxygen sag curves show the time and distance needed for a stream to recover. |

57. In most developed countries, large fish kills and contamination of drinking water may be caused by all of the following *except*

|  |  |
| --- | --- |
| a. | malfunctioning sewage treatment plants |
| b. | accidental release of toxic industrial chemicals |
| c. | deliberate release of toxic industrial chemicals |
| d. | accidental release of predatory exotic species |
| e. | pesticides and plant nutrients from agricultural sources |

58. According to the Global Water Policy Project, most cities in developing countries discharge \_\_\_\_ of their untreated sewage directly into rivers, streams, and lakes whose waters are then used for human consumption.

|  |  |
| --- | --- |
| a. | 1020% |
| b. | 2030% |
| c. | 4050% |
| d. | 5060% |
| e. | 8090% |

59. Which of the following statements about lakes is *true*?

|  |  |
| --- | --- |
| a. | Stratified layers of lakes are characterized by vertical mixing. |
| b. | Stratification increases levels of dissolved oxygen, especially in the bottom layer. |
| c. | Lakes are more vulnerable than streams to contamination by plant nutrients, oil, pesticides, and toxic substances that can destroy bottom life. |
| d. | Lakes have more flushing than streams. |
| e. | Changing of water in lakes takes days to weeks. |

60. The natural nutrient enrichment of a shallow lake, estuary, or slow moving stream is called

|  |  |
| --- | --- |
| a. | oligotrophy |
| b. | spring/fall overturn |
| c. | upwellings |
| d. | red tides |
| e. | eutrophication |

61. In cultural eutrophication, fish die from

|  |  |
| --- | --- |
| a. | acid deposition |
| b. | decreasing solar energy used in photosynthesis |
| c. | toxic substances in the water |
| d. | increased sediment reducing habitats |
| e. | loss of space |

62. Which of the following is *not* a preventative method of reducing cultural eutrophication?

|  |  |
| --- | --- |
| a. | banning the use of phosphate detergents |
| b. | stopping the runoff of fertilizer from agricultural fields |
| c. | advanced waste treatment |
| d. | harvesting excess weeds |
| e. | soil conservation and land-use measures |

63. All of the following are cleanup methods of controlling cultural eutrophication, *except*

|  |  |
| --- | --- |
| a. | using advanced waste treatment |
| b. | treating plant growth with herbicides |
| c. | harvesting excess weeds |
| d. | pumping air through reservoirs to avoid oxygen depletion |
| e. | removing algae using algicides |

64. Which of the following would *not* reduce cultural eutrophication?

|  |  |
| --- | --- |
| a. | Dredge lake bottoms. |
| b. | Pump oxygen into lakes. |
| c. | Institute land-use control to prevent nutrient runoff. |
| d. | Prevent as much outflow or drainage as possible from the lake. |
| e. | Remove excess weeds. |

65. The Great Lakes possess \_\_\_\_% of all the surface fresh water in the United States.

|  |  |
| --- | --- |
| a. | 35 |
| b. | 95 |
| c. | 75 |
| d. | 55 |
| e. | 45 |

66. Less than \_\_\_\_% of the water entering the Great Lakes leaves the St. Lawrence River.

|  |  |
| --- | --- |
| a. | 1 |
| b. | 8 |
| c. | 16 |
| d. | 32 |
| e. | 64 |

67. One fish in \_\_\_\_ taken from the Great Lakes is unsafe for human consumption.

|  |  |
| --- | --- |
| a. | ten |
| b. | seven |
| c. | five |
| d. | four |
| e. | three |

68. The 2007 State of the Great Lakes report found all of the following problems still exist in the lakes, *except*

|  |  |
| --- | --- |
| a. | Native carnivorous fish are declining in most of the lakes. |
| b. | There is continuing wetland loss and degradation of habitats. |
| c. | New pollutants in the lakes including pharmaceuticals. |
| d. | Populations of native species at the base of the food chain are declining. |
| e. | Dissolved oxygen levels continue to decline. |

69. Drinking water for about \_\_\_\_ of the U.S. population and \_\_\_\_ of the rural populations comes from groundwater.

|  |  |
| --- | --- |
| a. | 50%; 50% |
| b. | 50%; 95% |
| c. | 10%; 50% |
| d. | 10%; 95% |
| e. | 75%; 75% |

70. Contaminated groundwater can not cleanse itself for all of the following reasons, *except*

|  |  |
| --- | --- |
| a. | Groundwater does not move at all. |
| b. | Contaminants are not dispersed effectively. |
| c. | Lower concentrations of dissolved oxygen exist for decomposition. |
| d. | Usually cold temperatures slow down reactions. |
| e. | Contaminants are not diluted easily. |

71. Over the 21st century, scientists expect to find many millions of \_\_\_\_ to become a major global health problem.

|  |  |
| --- | --- |
| a. | people |
| b. | carcinogens |
| c. | solar panels |
| d. | leaking underground storage tanks |
| e. | leaking solid waste landfills |

72. Which of the following statements about MTBE (methyl tertiary butyl ether) is *not* true?

|  |  |
| --- | --- |
| a. | It is a gasoline additive. |
| b. | It is a suspected carcinogen. |
| c. | It is a potential alternative fuel with no noticeable serious environmental effects. |
| d. | It has leaked into and contaminated aquifers throughout the country. |
| e. | It is being phased out of use. |

73. Arsenic levels are 5100 times the standard for 140 million people living in \_\_\_\_.

|  |  |
| --- | --- |
| a. | the United States |
| b. | Western Europe and as far east as Poland |
| c. | Central and South America |
| d. | China, Bangladesh, and part of India |
| e. | industrial areas of the United States |

74. The only effective way to protect groundwater is to

|  |  |
| --- | --- |
| a. | prevent contamination |
| b. | use monitoring wells |
| c. | cover all wells carefully |
| d. | treat all water from underground sources |
| e. | use advanced sewage treatment |

75. Which of the following is *not* a means of purifying water for drinking?

|  |  |
| --- | --- |
| a. | protecting watersheds from pollution |
| b. | exposing water in a clear plastic bottle to intense sunlight |
| c. | nanofilters |
| d. | carbon nanotubes |
| e. | centrifugation |

76. According to the EPA, one in \_\_\_\_ Americans drinks water supplied by a water treatment plant that has violated one or more safety standards during part of the year.

|  |  |
| --- | --- |
| a. | 10 |
| b. | 5 |
| c. | 4 |
| d. | 3 |
| e. | 2 |

77. Bottled water in the U.S. costs 240 to 100,000 times more than tap water, yet \_\_\_\_ of bottled water is contaminated by fungi and bacteria.

|  |  |
| --- | --- |
| a. | 10% |
| b. | 20% |
| c. | 30% |
| d. | 40% |
| e. | 50% |

78. Which of the following aquatic ecosystems may be most capable of diluting, dispersing, and degrading large amounts of sewage, sludge, and oil?

|  |  |
| --- | --- |
| a. | estuary |
| b. | swiftly flowing stream |
| c. | deep-water ocean |
| d. | coastal parts of the ocean |
| e. | slow-moving river |

79. In a 2005 report on the ecological health of coastal areas in the lower 48 states, the EPA classified \_\_\_\_ estuaries as threatened or impaired.

|  |  |
| --- | --- |
| a. | one of two |
| b. | one of four |
| c. | one of ten |
| d. | four of five |
| e. | nine of ten |

80. \_\_\_\_ of the world's population lives on or within 160 miles of the coast.

|  |  |
| --- | --- |
| a. | 20% |
| b. | 30% |
| c. | 40% |
| d. | 50% |
| e. | 60% |

81. The majority of the oil pollution of the ocean comes from

|  |  |
| --- | --- |
| a. | blowouts (rupture of a borehole of an oil rig in the ocean) |
| b. | tanker accidents |
| c. | environmental terrorism |
| d. | runoff from land |
| e. | normal operation of offshore wells |

82. The *most* common problem encountered by seabirds coated with oil is

|  |  |
| --- | --- |
| a. | immediate death |
| b. | vulnerability to predators |
| c. | loss of buoyancy and insulation, causing deaths from exposure |
| d. | poisoning by taking in the oil internally |
| e. | starvation |

83. The oil company responsible for the oil spill of the *Valdez* was

|  |  |
| --- | --- |
| a. | Alaska |
| b. | Gulf |
| c. | Exxon |
| d. | Sunoco |
| e. | Texaco |

84. Farmers can reduce agricultural runoff by all of the following, *except*

|  |  |
| --- | --- |
| a. | using slow-release fertilizers |
| b. | keeping cropland covered with vegetation |
| c. | planting buffer zones between cultivated lands and water |
| d. | using no fertilizer on steeply sloped land |
| e. | switching from row crops to animal feedlots |

85. About \_\_\_\_ of U.S. lakes were tested unsafe for fishing, swimming, and other recreational uses.

|  |  |
| --- | --- |
| a. | 25% |
| b. | 45% |
| c. | 65% |
| d. | 75% |
| e. | 85% |

86. The Clean Water Act could be strengthened by all of the following strategies, *except*

|  |  |
| --- | --- |
| a. | prevention and control of toxic water pollution |
| b. | more funding for integrated airshed and watershed planning |
| c. | allowing citizens to bring lawsuits to ensure that water pollution laws are enforced |
| d. | establishing national effluent standards |
| e. | requiring states to do a better job of monitoring and enforcing water pollution laws |

87. In a septic tank system, which of the following is *not* true?

|  |  |
| --- | --- |
| a. | Wastewater is pumped into a settling tank. |
| b. | Grease and oil rise to the top in the tank. |
| c. | Solids are decomposed by bacteria. |
| d. | Bacteria-treated waste is discharged in an absorption field. |
| e. | After leaving the absorption field, wastewater is cleaned and can be used again for human consumption. |

88. Which of the following types of sewage treatment are properly matched?

|  |  |
| --- | --- |
| a. | primarybiological process |
| b. | secondarymechanical process |
| c. | advancedphysical and chemical processes |
| d. | secondarychemical process |
| e. | primarychemical process |

89. Waterless, odorless composting toilet systems have all of the following advantages, *except*

|  |  |
| --- | --- |
| a. | converts human fecal material to soil-like fertilizer supplement |
| b. | removes toxic and hazardous chemicals |
| c. | saves large amounts of water |
| d. | decreases energy used to pump and purify water |
| e. | cheaper to install and maintain |

90. The individual matters in terms of what can be done to help reduce water pollution. All of the following are things we can do, *except*

|  |  |
| --- | --- |
| a. | Fertilize gardens and lawns with manure or compost instead of fertilizers. |
| b. | Minimize use of pesticides. |
| c. | Compost food waste. |
| d. | Do not flush unwanted medicines down the toilet. |
| e. | Buy commercially produced foods. |

**Review for 13 & 20 APES**

**Answer Section**

**MULTIPLE CHOICE**

1. ANS: C PTS: 1 DIF: Moderate TOP: 13-0 Core Case Study

2. ANS: A PTS: 1 DIF: Difficult TOP: 13-0 Core Case Study

3. ANS: E PTS: 1 DIF: Easy

TOP: 13-1 Will We Have Enough Usable Water?

4. ANS: B PTS: 1 DIF: Easy

TOP: 13-1 Will We Have Enough Usable Water?

5. ANS: D PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

6. ANS: C PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

7. ANS: D PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

8. ANS: D PTS: 1 DIF: Easy

TOP: 13-1 Will We Have Enough Usable Water?

9. ANS: C PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

10. ANS: B PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

11. ANS: D PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

12. ANS: A PTS: 1 DIF: Easy

TOP: 13-1 Will We Have Enough Usable Water?

13. ANS: C PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

14. ANS: D PTS: 1 DIF: Easy

TOP: 13-1 Will We Have Enough Usable Water?

15. ANS: B PTS: 1 DIF: Moderate

TOP: 13-1 Will We Have Enough Usable Water?

16. ANS: D PTS: 1 DIF: Difficult

TOP: 13-1 Will We Have Enough Usable Water?

17. ANS: B PTS: 1 DIF: Difficult

TOP: 13-1 Will We Have Enough Usable Water?

18. ANS: E PTS: 1 DIF: Easy

TOP: 13-1 Will We Have Enough Usable Water?

19. ANS: C PTS: 1 DIF: Difficult

TOP: 13-2 Is Extracting Groundwater the Answer?

20. ANS: D PTS: 1 DIF: Easy

TOP: 13-2 Is Extracting Groundwater the Answer?

21. ANS: C PTS: 1 DIF: Easy

TOP: 13-2 Is Extracting Groundwater the Answer?

22. ANS: E PTS: 1 DIF: Easy

TOP: 13-2 Is Extracting Groundwater the Answer?

23. ANS: C PTS: 1 DIF: Moderate

TOP: 13-2 Is Extracting Groundwater the Answer?

24. ANS: A PTS: 1 DIF: Moderate

TOP: 13-2 Is Extracting Groundwater the Answer?

25. ANS: B PTS: 1 DIF: Moderate

TOP: 13-3 Is Building More Dams the Answer?

26. ANS: D PTS: 1 DIF: Moderate

TOP: 13-3 Is Building More Dams the Answer?

27. ANS: E PTS: 1 DIF: Easy

TOP: 13-3 Is Building More Dams the Answer?

28. ANS: C PTS: 1 DIF: Difficult

TOP: 13-3 Is Building More Dams the Answer?

29. ANS: A PTS: 1 DIF: Moderate

TOP: 13-3 Is Building More Dams the Answer?

30. ANS: B PTS: 1 DIF: Moderate

TOP: 13-3 Is Building More Dams the Answer?

31. ANS: D PTS: 1 DIF: Moderate

TOP: 13-4 Is Transferring Water from One Place to Another the Answer?

32. ANS: C PTS: 1 DIF: Moderate

TOP: 13-5 Is Converting Salty Seawater to Freshwater the Answer?

33. ANS: A PTS: 1 DIF: Moderate

TOP: 13-5 Is Converting Salty Seawater to Freshwater the Answer?

34. ANS: E PTS: 1 DIF: Moderate

TOP: 13-6 How Can We Use Water More Sustainably?

35. ANS: C PTS: 1 DIF: Difficult

TOP: 13-6 How Can We Use Water More Sustainably?

36. ANS: B PTS: 1 DIF: Difficult

TOP: 13-6 How Can We Use Water More Sustainably?

37. ANS: D PTS: 1 DIF: Difficult

TOP: 13-6 How Can We Use Water More Sustainably?

38. ANS: D PTS: 1 DIF: Moderate

TOP: 13-6 How Can We Use Water More Sustainably?

39. ANS: C PTS: 1 DIF: Moderate

TOP: 13-7 How Can We Reduce the Threat of Flooding?

40. ANS: A PTS: 1 DIF: Moderate

TOP: 13-7 How Can We Reduce the Threat of Flooding?

41. ANS: E PTS: 1 DIF: Moderate TOP: 20-0 Core Case Study

42. ANS: A PTS: 1 DIF: Moderate TOP: 20-0 Core Case Study

43. ANS: D PTS: 1 DIF: Moderate TOP: 20-0 Core Case Study

44. ANS: D PTS: 1 DIF: Moderate

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

45. ANS: E PTS: 1 DIF: Moderate

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

46. ANS: C PTS: 1 DIF: Easy

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

47. ANS: D PTS: 1 DIF: Easy

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

48. ANS: A PTS: 1 DIF: Easy

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

49. ANS: E PTS: 1 DIF: Easy

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

50. ANS: B PTS: 1 DIF: Moderate

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

51. ANS: A PTS: 1 DIF: Easy

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

52. ANS: D PTS: 1 DIF: Easy

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

53. ANS: B PTS: 1 DIF: Difficult

TOP: 20-1 What Are the Causes and Effects of Water Pollution?

54. ANS: D PTS: 1 DIF: Moderate

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

55. ANS: B PTS: 1 DIF: Easy

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

56. ANS: B PTS: 1 DIF: Difficult

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

57. ANS: D PTS: 1 DIF: Moderate

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

58. ANS: E PTS: 1 DIF: Difficult

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

59. ANS: C PTS: 1 DIF: Difficult

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

60. ANS: E PTS: 1 DIF: Moderate

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

61. ANS: B PTS: 1 DIF: Moderate

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

62. ANS: D PTS: 1 DIF: Difficult

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

63. ANS: A PTS: 1 DIF: Difficult

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

64. ANS: D PTS: 1 DIF: Difficult

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

65. ANS: B PTS: 1 DIF: Easy

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

66. ANS: A PTS: 1 DIF: Easy

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

67. ANS: D PTS: 1 DIF: Easy

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

68. ANS: E PTS: 1 DIF: Difficult

TOP: 20-2 What Are the Major Water Pollution Problems in Streams and Lakes?

69. ANS: B PTS: 1 DIF: Easy

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

70. ANS: A PTS: 1 DIF: Moderate

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

71. ANS: D PTS: 1 DIF: Moderate

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

72. ANS: C PTS: 1 DIF: Moderate

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

73. ANS: D PTS: 1 DIF: Moderate

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

74. ANS: A PTS: 1 DIF: Difficult

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

75. ANS: E PTS: 1 DIF: Moderate

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

76. ANS: B PTS: 1 DIF: Moderate

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

77. ANS: D PTS: 1 DIF: Moderate

TOP: 20-3 What Are the Major Pollution Problems Affecting Groundwater and Other Drinking Water Sources?

78. ANS: C PTS: 1 DIF: Moderate

TOP: 20-4 What Are the Major Water Pollution Problems Affecting Oceans?

79. ANS: D PTS: 1 DIF: Easy

TOP: 20-4 What Are the Major Water Pollution Problems Affecting Oceans?

80. ANS: C PTS: 1 DIF: Easy

TOP: 20-4 What Are the Major Water Pollution Problems Affecting Oceans?

81. ANS: D PTS: 1 DIF: Moderate

TOP: 20-4 What Are the Major Water Pollution Problems Affecting Oceans?

82. ANS: C PTS: 1 DIF: Moderate

TOP: 20-4 What Are the Major Water Pollution Problems Affecting Oceans?

83. ANS: C PTS: 1 DIF: Easy

TOP: 20-4 What Are the Major Water Pollution Problems Affecting Oceans?

84. ANS: E PTS: 1 DIF: Difficult

TOP: 20-5 How Can We Best Deal with Water Pollution?

85. ANS: B PTS: 1 DIF: Easy

TOP: 20-5 How Can We Best Deal with Water Pollution?

86. ANS: D PTS: 1 DIF: Difficult

TOP: 20-5 How Can We Best Deal with Water Pollution?

87. ANS: E PTS: 1 DIF: Easy

TOP: 20-5 How Can We Best Deal with Water Pollution?

88. ANS: C PTS: 1 DIF: Moderate

TOP: 20-5 How Can We Best Deal with Water Pollution?

89. ANS: B PTS: 1 DIF: Moderate

TOP: 20-5 How Can We Best Deal with Water Pollution?

90. ANS: E PTS: 1 DIF: Moderate

TOP: 20-5 How Can We Best Deal with Water Pollution?