Environmental Science 6th edition McKinney Test Bank

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Chapter 1 – Environmental Science: An Overview

Multiple Choice

1. Planet Earth has existed for over _____ billion years.

A. 4
B. 8
C. 10
D. 12

Ans: A

2. Holistic approaches to solving environmental problems are generally:

A. cheaper and less efficient.
B. cheaper and more efficient.
C. more expensive and less efficient.
D. more expensive and more efficient.

Ans: B

3. What is the specific name for the approach that controls pollution by reducing the flow of material through society?

A. End-of-pipe solutions
B. Input reduction
C. Out-of-pipe solutions
D. Output reduction

Ans: B

4. All of the following are key traits of the environmental system, *except*:

A. integration.

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B. complexity.
C. stability.
D. openness.

Ans: C

5. In terms of _____, the Earth is a(n) _____ system.

A. energy; closed
B. energy; open
C. matter; open
D. energy; unstable

Ans: B

6. The cells of the human body have _____ integration than the cells of *Volvox*.

A. equal
B. higher
C. less or lower
D. negligible

Ans: B

7. According to the Gaia hypothesis, the Earth is similar to a(n):

A. cell.
B. organism.
C. robot.
D. solar system.

Ans: B

8. Industrialized societies have _____ cycling of materials.

A. controlled
B. decreased

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C. ignored
D. accelerated

Ans: D

9. The world population is currently over _____ billion.

A. 7
B. 6
C. 8
D. 10

Ans: A

10. Select the best example of an exponential increase in numbers.

A. 1 - 2 - 4 - 6 - 8 - 10 - 12
B. 1 - 2 - 4 - 8 - 16 - 32 - 64
C. 1 - 2 - 3 - 4 - 5 - 6 - 7
D. 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1

Ans: B

11. According to the World Bank, what is the predicted stabilization number for the worldwide population?

A. 11 billion
B. 8 billion
C. 9 billion
D. 15 billion

Ans: C

12. By an equation, an impact is the product of population and:

A. contamination.
B. resources.

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C. consumption.
D. time.

Ans: C

13. Select the correct sequence for the passage of materials and energy through the environment.

A. Sink-throughput-source
B. Source-throughput-sink
C. Throughput-sink-source
D. Throughput-source-sink

Ans: B

14. The United States has about _____% of the world's population.

A. 1
B. 5
C. 10
D. 15

Ans: B

15. At what stage did humans have their earliest impact on the environment?

A. Agriculture
B. Conservatism
C. Gathering and hunting
D. Industry

Ans: C

16. The change in human society to agriculture _____ population size.

A. decreased
B. increased
C. neutralized

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D. stabilized

Ans: B

17. Select the environmental problem that the EPA has *not* designated as one of the three greatest environmental problems.

A. Global warming
B. Groundwater drainage
C. Increasing species extinction
D. Ozone depletion

Ans: B

18. The highest priority environmental problems according to the EPA could be described as:

A. global, long term, and complex in nature.
B. local and targeting a single species.
C. having the greatest immediate impact on humans.
D. relating to pollution of our oceans.

Ans: A

19. Which stage of the human population is associated with the fastest population growth, increasing throughput, and rapid increases in pollution leading to social movements?

A. Agriculture and conservationism
B. Industry and environmentalism
C. Gathering and hunting
D. Transition and sustainability

Ans: B

20. Select the oldest organization from the following choices.

A. Defenders of Wildlife
B. Sierra Club

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C. World Wildlife Fund
D. Audubon Society

Ans: B

21. Select the approach that is *not* sustainable technology.

A. Efficiency improvements
B. Increase input flow
C. Reuse and recycle
D. Substitution

Ans: B

22. Select the country that annually uses the greatest percentage of its national wealth on energy.

A. Africa
B. Iceland
C. Japan
D. United States

Ans: D

23. Select the example of an efficiency improvement leading to a reduction in fossil fuel usage.

A. Burning cleaner fossil fuels that pollute less
B. Substituting natural gas for refined gasoline
C. Using incandescent bulbs in place of fluorescent light bulbs
D. Making lighter weight automobiles with greater gas mileage

Ans: D

24. Saving glass products to employ in more glass production is an example of:

A. biodegradation.
B. degradation.
C. recycling.

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D. reuse.

Ans: D

25. Using solar energy instead of fossil fuel is an example of:

A. recycling.
B. remediation.
C. reuse.
D. substitution.

Ans: D

26. According to the concept of the debt bomb, rich countries receive _____ money from poor countries than they transfer to them.

A. less
B. more
C. the same amount of
D. a variable amount of

Ans: B

27. Select the most specific sphere of concern on the Earth.

A. All animals
B. All people
C. Races of humans
D. Self

Ans: D

Matching

28. Each letter is used only once.

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_____ acid rain
_____ oil spill
_____ species extinction

A. High-risk problem
B. Medium-risk problem
C. Low-risk problem

Ans: B, C, A

29. Each letter is used only once.

_____ 4.6 billion
_____ 7.4 billion
_____ 77 million

A. Annual increase in world's population
B. World's population (approximately for 2011)
C. Number of years the planet has existed

Ans: C, B, A

Short Answer

30. List three approaches used by the sustainability movement not attempted by previous movements.

Ans: Reducing resource usage; addressing social, economic, as well as biological and legal issues (holistic, encourages the development of local action groups)

31. What are the two main forces that accelerate resource depletion and pollution, i.e., increase impact?

Ans: Population, consumption

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32. List three basic ways that sustainable technologies can achieve reduction or conservation.

Ans: Efficiency improvements, reuse and recycle, and substitution

33. Define a system.

Ans: It is a set of components that function together as a whole.

34. Define the integration of a system.

Ans: It is the strength of the interactions among the parts of a system.

35. Define the meaning of complexity in a system.

Ans: It refers to the number of parts in the system.

36. Define the first law of ecology.

Ans: Human activity cannot do just one thing. Because of interactions, one thing will affect many things; law of unintended consequences.

37. How does output reduction differ from input reduction in its environmental impact approach?

Ans: It refers to the number of parts in the system.

38. What does the term *sustainability* mean?

Ans: It means meeting the needs of human society of today without reducing the quality of life for future generations.

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39. What is the name of the predicted fifth stage of environmental impact by humans?

Ans: It is the postindustrial stage.

40. List several environmental problems developing from using the atmosphere as a common sink.

Ans: Global warming, ozone loss, acid rain, urban smog

41. Why is rapid population growth often described as a time bomb?

Ans: It is building up to unleash environmental destruction in the future.

42. List the three ways to reduce the impact of technology in society.

Ans: Try to reduce material needs, reduce technology, and use sustainable technology.

43. Define the term *reuse*.

Ans: It means to use the same resource over and over in the same form.

44. What environmental problem results from burning coal to produce electricity?

Ans: Air pollution, acid rain, fish kills, dissolves limestone

45. What is the fallacy of enlightenment?

Ans: It states that education will solve environmental problems.

46. Describe the approach of discounting the future.

Ans: The future is ignored and the focus on environmental activities is for now.

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47. Describe the approach of discounting by distance.

Ans: The cost and availability of resources from large geographic distances are not considered.

48. Compare the attitudes of cornucopians and cassandras regarding environmental problems?

Ans: Opposite ends of a spectrum where cornucopians feel that human ingenuity will always overcome environmental problems; cassandras feel that environmental impact will inevitably lead to overshoot environmental degradation.

49. What is the precautionary principle?

Ans: A potential problem should be considered and addressed as real.

50. What is the main problem of resource scarcity?

Ans: By using them these resources are being depleted at an alarming rate. Some of them, such as fossil fuels, are nonrenewable.

51. Where is the origin of grassroots activism?

Ans: It originates from local group participation.

True/False

52. Concern about the environment is confined to the Western Hemisphere of the world.

Ans: False

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53. Humans are only loosely connected to the systems within the natural environment.

Ans: False

54. Thoreau's advice was to produce a more complex world.

Ans: False

55. Environmental wisdom is the ability to sort through facts and information to make correct decisions and plan long-term strategies.

Ans: True

56. Use of a holistic approach to solve a problem means seeking connections among all aspects of a problem.

Ans: True

57. The knowledge of the public for natural science must improve to offer better solutions to solve environmental problems.

Ans: True

58. Solar and wind power are less harmful choices to the environment than the more traditional energy sources.

Ans: True

59. According to the principle of positive feedback, the response of a system to a change magnifies the initial change.

Ans: True

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60. It is inevitable that technology will have a harmful effect on the environment.

Ans: False

61. A society that produces too much waste is probably using too many resources.

Ans: True

62. Developed nations use a proportionately higher percentage of the world's resources and energy compared to their population size.

Ans: True

63. Waste is the cause of the environmental crisis.

Ans: False

64. The sustainability movement is a holistic approach.

Ans: True

65. The sustainability movement is more anthropocentric than ecocentric.

Ans: False

66. According to Garrett Hardin, the commons rewards behaviors that preserve the environment.

Ans: False

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67. Increased environmental impact has resulted from an increase in the human population and a decrease in industrial technology.

Ans: False

68. Many of the technologies developed in the United States occurred during times of abundant resources.

Ans: True

69. The United States uses a higher percentage of its raw timber for furniture and timber products than Japan.

Ans: False

70. Recycling and reuse will mean the loss of many jobs.

Ans: False

71. Green fees decrease the costs for environmental resources.

Ans: False

72. Many developing nations are in the Northern Hemisphere.

Ans: False

73. The Earth is closed system to new sources of energy.

Ans: False

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74. Global warming may be responsible for new disease outbreaks such as cholera and malaria.

Ans: True

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