Ch 6 Answer Key : Book questions p. 163-164

1. D
2. C
3. C
4. C
5. D
6. B
7. D
8. B
9. C
10. B
11. A
12. Human activity
13. Introduced farming strategies such as high-yield varieties of major food crops, which greatly increased agricultural production
14. Pollution and destruction of habitats
15. Forests remove carbon dioxide from the atmosphere and produce oxygen
16. Sewage dumped into streams, oils spills at sea, pesticides that enter the food chain, acidic gases from burning fossil fuels
17. Sum total of the genetically based variety of organisms in the biosphere
18. Increased DDT released into the food chain from zooplankton to fish to eagles
19. CFCs are carried into the upper atmosphere, where UV radiation breaks them apart. A series of chemical reactions follows, breaking down ozone into ordinary oxygen
20. Conservation is wise management of natural resources, including preservation of habitats and wildlife. The modern science of conservation biology seeks to protect biodiversity.
21. See Fig. 6-22 on page 160
22. Loss of biodiversity may mean loss of potential sources of material with significant value to humans ie. Loss of plants used for meds.
23. Species diversity is the number of species in biosphere, ecosystem diversity is the variety of habitats, communities, and ecological processes in the living world
24. A. change in temp expressed in Celsius is plotted on y. 0.0 represents the global temp in 1850 b. the world tem change in 2000 was +.7 or .7 degrees higher than in 1850 c. the data between 1970 and 2000 show an overall increase in temp. d. the graph by itself does not predict the pattern of global warming in the future, because many different variables interact to produce temp averages for a given year and can also modify climate trends in unpredictable ways.
25. Answers may include: cotton crop was made up of plants that were all the same in their inability to resist disease, the new disease was able to sweep through and destroy the cotton crop
26. Compare erosion of soil that is protected in various ways with erosion of unprotected soil.
27. Multiply by 10 to get answer: 1st level = 40 ppm; 2nd level 400 ppm, etc
28. A typical response might mention the sustainable-development strategies discussed in the text, including selectively harvesting mature trees, a greater reliance on tree farms and the breeding of new, faster growing tree varieties that produce high quality wood
29. All guidelines should ensure that toxic or otherwise dangerous trash is either regarded before disposal or disposed in a manner that guarantees no harm will be done to the environment. Answer should also describe ways to recycle paper, plastics, metals, and glass used in class.
30. Acid rain might change the water chemistry of the lake, destroying life forms such as algae that can make lake water look cloudy
31. Sulfur dioxide, which forms when sulfur-containing coal is burned, helps produce sulfuric acid, a component of acid rain. Low sulfur coal produces less of the dioxide than high sulfur coal and thus less sulfuric acid and less acid rain
32. The productivity of an ecosys. In which organisms live, and hence the potential variety of species, depends on the ecosys’s abiotic and biotic factors. Most coastal waters are in the photic zone. As a result they receive plenty of solar energy for the producers to support the food chain. In addition, runoff from rivers and streams may bring nutrients to coastal waters that also increase the productivity of coastal ecosystems. Finally, estuaries, the intertidal zone, and the coastal ocean provide varied habitats that encourage biodiversity.