Chapter 19 Practice Quiz

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

____ 1. The 1997 Kyoto Protocol went into effect in 2005 with only seven of the world’s 194 nations not ratifying the agreement. Which of the following countries did not ratify it?
   a. Netherlands  c. United States  e. Switzerland
   b. Canada  d. Germany

____ 2. An increase in the concentration of greenhouse gases in the troposphere will lead to the reduction in heat radiated back to space in the form of:
   a. infrared radiation  c. gamma radiation  e. cosmic rays
   b. visible light  d. ultraviolet light

____ 3. Scientists studying climate change estimate the average global sea level rise by the year 2100 may be as much as _____ or higher.
   a. 3 inches  c. 25 inches  e. 58 inches
   b. 6 inches  d. 49 inches

____ 4. Major climate models predict all of the following, except
   a. a 2- to 4.5-degree centigrade rise in earth's mean surface temperature by 2100
   b. human role in the changes in global temperature
   c. the falling of global sea levels
   d. lower temperature rises are only possible with drastic greenhouse gas cuts
   e. temperature increases of 3 degrees centigrade are most likely

____ 5. Carbon dioxide rates reached what level in 2010?
   a. 300 ppm  c. 357 ppm  e. 417 ppm
   b. 332 ppm  d. 390 ppm

____ 6. Which of the following natural disasters in the United States can be at least partly attributed to global warming?
   a. hurricane Katrina  d. Exxon Valdez Oil spill
   b. Gulf Oil spill  e. Eruption of Mount St. Helens
   c. Love Canal

____ 7. Climate models predict that global warming will be most severe in which regions?
   a. Australia  c. Polar regions  e. Euro-Asia
   b. North America  d. Africa

____ 8. If current rates of CO2 emissions continue, the CO2 level will be at what level by 2100?
   a. 275 ppm  c. 380 ppm  e. 550 ppm
   b. 335 ppm  d. 420 ppm

____ 9. An indirect anthropogenic release of methane is manifested by:
   a. melting of arctic permafrost
   b. decreased termite activity
   c. greater concentration of atmospheric soot
   d. increased wind farm activity in the northern latitudes
   e. reduced tropical deforestation
10. A warmer world is least likely to result in
   a. decreased food production
   b. reduced food production
   c. a rise in sea level
   d. increased moderate weather
   e. spread of tropical diseases

11. Soils contain a large amount of stored carbon. The current and expected increase in temperature is likely to stimulate a positive feedback mechanism driven by
   a. increased plant growth
   b. increased activity of decomposers in soils
   c. heightened soil erosion
   d. soil salinization
   e. loss of groundwater recharge

12. Which of the following molecules is not considered a greenhouse gas?
   a. Carbon Dioxide
   b. Ozone
   c. Nitrogen
   d. Methane
   e. Chlorofluorocarbon

13. Ocean currents are major heat distribution mechanisms for the planet and thus have a large impact on regional climate. Of the following events, which would be most likely to disrupt the thermohaline cycling of ocean currents, causing much of Europe to experience much colder temperatures?
   a. coral bleaching releasing carbonate into the water
   b. increased whale harvests removing radiant loss from mammals
   c. melting of Greenland ice sheets
   d. addition of salt run-off from salinized middle eastern soil
   e. reduced continental run-off of fresh water stimulated by drought conditions

14. The predicted rise in sea levels during the 21st Century will likely cause all of the following results, except
   a. saltwater contamination of coastal freshwater aquifers
   b. flooding of some of the world’s largest coastal cities, including New York
   c. flooding of low-lying barrier islands and gently sloping coastlines
   d. replenishment of many coastal fisheries
   e. destruction of many coastal estuaries, wetlands, and coral reefs

15. The 2003 U. S. National Academy of Sciences report outlined a worst-case scenario in which all of the following could occur, except
   a. collapse of ecosystems
   b. floods in low-lying coastal cities
   c. forests burning in vast wildfires
   d. drinking and irrigation water drying up
   e. mountain glaciers growing in size

16. A layer of ozone in the lower stratosphere reduces the sun's harmful UV radiation by how much?
   a. 95%
   b. 63%
   c. 49%
   d. 33%
   e. 20%

17. Which of the following would provide the most ecologically sound approach to sequestering carbon that has already been emitted into the atmosphere?
   a. converting methane-emitting wetlands into agricultural land
   b. allowing agricultural fields to become pasture or forest
   c. introducing termite bio-controls to reduce the production of methane
   d. interrupting bacterial respiration to reduce carbon output
   e. applying nitrates to oceans to stimulate algal growth and thus photosynthetic activity
18. Prevention approaches to global warming include all of the following, except
   a. Increase beef production to strengthen public health.
   b. Shift from coal to natural gas
   c. Reduce deforestation
   d. Slow population growth.
   e. Improve energy efficiency.

19. Which of the following ecosystems is least likely to suffer disruption and species loss from climate change?
   a. temperate oak-pine and oak-hickory forests
   b. coral reefs
   c. coastal wetlands
   d. high elevation mountaintops
   e. alpine and Arctic tundra

20. The concentration of carbon dioxide in the troposphere at the start of the Industrial Revolution was approximately
   a. 280 ppm  c. 320 ppm  e. 390 ppm
   b. 310 ppm  d. 350 ppm