Sample Final Exam

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

1. Volcanoes are an important natural source of
   a. chlorofluorocarbons.
   b. ozone.
   c. sulfur dioxide.
   d. carbon monoxide.

2. Photochemical smog is also termed
   a. London-type smog.
   b. subsidence smog.
   c. mixing layer smog.
   d. sea breeze smog.
   e. Los Angeles-type smog.

3. Which of the following gases is an example of a volatile organic compound or hydrocarbon?
   a. sulfur dioxide
   b. carbon dioxide
   c. methane
   d. ozone

4. Polar stratospheric clouds form above Antarctica when __________ in the stratosphere is __________.
   a. temperature, high
   b. temperature, low
   c. pressure, high
   d. pressure, low

5. The term "ozone hole" refers to a __________ decrease in ozone concentration.
   a. permanent
   b. yearly
   c. monthly
   d. daily
Exhibit 12-1

6. In Exhibit 12-1, the greatest concentration of pollutants would be found
   a. in layer A.
   b. in layer B.
   c. in layer C.
   d. above layer A.

7. Which of the following conditions would act to prevent a high concentration buildup of pollutants near the surface?
   a. light surface winds
   b. a strong subsidence inversion
   c. a large, slow-moving anticyclone
   d. a deep mixing layer

8. On clear, cold winter nights, cities tend to cool ________ than rural areas and have ________ minimum temperatures.
   a. more slowly, higher
   b. more quickly, higher
   c. more slowly, lower
   d. more quickly, lower

9. A country breeze would probably be associated with
   a. a large high-pressure areas that forms over the city.
   b. a hot and humid summer day in a large city.
   c. a period of heavy rain that falls over a city.
   d. a strong heat island.

10. Which of the following is a major way in which chlorofluorocarbons can enter the stratosphere?
    a. from the exhaust of high-altitude aircraft
    b. in an inversion
    c. in building thunderstorms that penetrate into the lower stratosphere
    d. from the rupture of radiosonde balloons

11. Which of the following are capable of destroying ozone in the stratosphere?
    a. oxygen atoms
    b. chlorine atoms
    c. other ozone molecules
    d. all of the above
12. Imagine that this piece of paper is illuminated with white light and appears red. You see red light because
   a. the paper absorbs red and reflects other visible wavelengths.
   b. the paper emits red light.
   c. the paper reflects red and absorbs other visible wavelengths.
   d. the paper disperses white light.
13. On the average, as a cloud grows thicker (taller), which below does not occur?
   a. more sunlight is reflected from the cloud
   b. less sunlight is transmitted through the cloud
   c. less sunlight is absorbed by the cloud
   d. more light is scattered by the cloud
14. Red sunsets, blue moons, and milky-white skies are mainly the result of
   a. refraction.
   b. dispersion.
   c. reflection.
   d. scattering.
   e. diffraction.
15. Which of the following would be true if the earth did not have an atmosphere?
   a. there would be fewer hours of daylight
   b. the sky would always be black
   c. the stars would be visible in the sky during the day
   d. all of the above
16. The sky is blue because air molecules selectively _________ blue light.
   a. scatter
   b. absorb
   c. diffract
   d. disperse
   e. emit
17. What color would the sky be if air molecules selectively scattered only the longest wavelengths of visible light?
   a. white
   b. blue
   c. red
   d. black
18. Which of the following is capable of producing a red sunrise or sunset?
   a. small suspended salt particles
   b. volcanic ash
   c. small suspended dust particles
   d. all of the above
19. The blue haze often seen in the clean air found in mountainous regions is mainly due to the _________ of light.
   a. refraction
   b. absorption
   c. diffraction
   d. scattering
20. This can only be seen when the sun is to your back and it is raining in front of you.
   a. sundog
   b. halo
   c. rainbow
   d. sun pillar
   e. corona

21. At sunset in the middle latitudes, look for a rainbow toward the
   a. north.
   b. south.
   c. east.
   d. west.

22. Refraction of light by the atmosphere is responsible for
   a. scintillation of starlight.
   b. mirages.
   c. causing the sun to appear to flatten-out on the horizon.
   d. increasing the length of daylight.
   e. all of the above

23. Because of atmospheric refraction, a star seen near the earth's horizon is actually
   a. slightly higher than it appears.
   b. slightly lower than it appears.
   c. much dimmer than it appears.
   d. much further away than it appears.

24. You would most likely see a halo or sundog with which of the following cloud types?
   a. altostratus
   b. cirrostratus
   c. nimbostratus
   d. cumulus

25. Which of the following would you most likely observe over snow covered ground in the winter?
   a. superior mirage
   b. sun pillars
   c. crepuscular rays
   d. shimmering
Sample Final Exam
Answer Section

MULTIPLE CHOICE

1. ANS: C
2. ANS: E
3. ANS: C
4. ANS: B
5. ANS: B
6. ANS: D
7. ANS: D
8. ANS: A
9. ANS: D
10. ANS: C
11. ANS: D
12. ANS: C
13. ANS: C
14. ANS: D
15. ANS: D
16. ANS: A
17. ANS: C
18. ANS: D
19. ANS: D
20. ANS: C
21. ANS: C
22. ANS: E
23. ANS: B
24. ANS: B
25. ANS: A