Chapter Twenty-Three Practice Test
PT – G – U4C23

Name_________________________________________________  Period__________________

Part I: Matching. Match the definition with the term that best correlates to it. No definition will be used more than once. (1.5 points each)


_____ 6. Standard atmospheric pressure

A) Percent of solar radiation reflected by a surface
B) Ratio of the weight of the air to the area of the surface on which it presses
C) The atmospheric pressure measured at sea level
D) Form of atmospheric oxygen that has three atoms per molecule
E) General weather conditions over many years
F) General condition of the atmosphere at a particular time and place
G) Instrument that measures atmospheric pressure
H) Looping pattern of flowing air
I) Process in which nitrogen moves from the air to the soil to animals and back to the air
J) Process by which the atmosphere traps infrared rays over Earth’s surface
K) Complete range of wavelengths of radiation
L) Bands of high-speed, high-altitude westerly winds
M) Narrow zone of low air pressure at the equator characterized by weak and undependable winds
N) Transfer of heat in which vibrating molecules pass heat along to other vibrating molecules by direct contact
O) Transfer of heat through the movement of fluids
P) Transfer of heat through the vacuum of space

Part II: True or False. Identify if each of the following statements is true or false. Write “True” if the answer is true. If the answer is false, write the word that would best replace the underlined word in the statement to make it true. Failure to follow these directions will result in no credit for the statement. (3 points each)

_______________________17. An aneroid barometer can be used as an altimeter.
_______________________18. Air pressure increases with elevation.
_______________________19. The atmosphere is pulled toward the earth’s surface by gravity.
_______________________20. Standard atmospheric pressure is equivalent to one atmosphere.
_______________________21. Most of the ozone in Earth’s atmosphere is located in the ionosphere.
Most weather changes take place in the **stratosphere**.

About **90%** of the solar energy reaching Earth’s atmosphere is absorbed by Earth’s surface.

**Reflection** is responsible for making the sky appear blue.

Sunburns are caused by **infrared** radiation.

A mirage is created by the **refraction** of light rays.

Increases in atmospheric levels of oxygen gas would probably cause the atmosphere to become warmer.

Solid metals are good **insulators** of heat.

Air is a **good** conductor of heat.

Atmospheric pressure is generally **higher** under a body of warm air than under a body of cool air.

Polar easterlies are generally **strong** winds.

The positions of the global wind belts **shift** during the year.

A **sea** breeze usually occurs at night.

A **mountain** breeze usually occurs at night.

Movement of air is primarily a result of **pressure differences** in the atmosphere.

In the Northern Hemisphere, the Coriolis effect deflects surface winds to the **left**.

**Part III: Matching.** Match the layer of the atmosphere with its description. NOTE: A layer of the atmosphere may be used more than once. (3 points each)

(A) mesosphere   (B) stratosphere   (C) thermosphere   (D) troposphere

37. The upper boundary of this atmospheric layer is the stratopause.

38. This atmospheric layer is the coldest of all layers.

39. The exosphere is part of this atmospheric layer.

40. This atmospheric layer contains the greatest amount of ozone.

41. Most weather changes occur in this atmospheric layer.

42. Temperature in this atmospheric layer decreases at an average rate of 6.5°C/km.
43. In this atmospheric layer, nitrogen and oxygen atoms absorb solar energy.

**Part IV: Matching.** Match the term with its description. **NOTE:** A term may be used more than once. (3 points each)

(A) Horse latitudes   (B) Polar easterlies   (C) Trade winds   (D) Westerlies

44. Subtropical high-pressure belt of air around 30° latitude

45. Global winds located between 40° and 60° latitude

46. Global winds located between 0° and 30° latitude

47. Weak global winds located north of 65° north latitude and south of 65° south latitude

48. These are responsible for creating doldrums.

**Part V: Short Answer.** Answer the following questions.

49. If there is a breeze flowing from the ocean to the land on the coast of Maine, about what time of day is it? How do you know? (6 points)

50. You hear a lecture about Earth’s weather. The speaker says, “Infrared rays coming from Earth’s surface heat the atmosphere much like a greenhouse is heated.” Explain why that statement is incorrect. (7 points)

51. During a jet flight over the North Pole and toward a region in the middle latitudes, the pilot adjusts the altimeter. Why is this adjustment necessary? (7 points)