

NS100 Sample Exam #4

- 1) Daylight and nighttime hours are equal
 - A) during the summer and winter solstices.
 - B) in mid-September and mid-March.
 - C) during the equinoxes.
 - D) both B and C

- 2) Air that flows northward from the horse latitudes in the Northern Hemisphere produces the
 - A) trade winds.
 - B) Kuroshio current.
 - C) westerlies.
 - D) Gulf Stream.

- 3) Warm air aloft is associated with
 - A) warm summer nights.
 - B) high surface pressure.
 - C) low air pressure aloft.
 - D) high air pressure aloft.

- 4) If evaporation exceeds precipitation, the salinity of the ocean in the area
 - A) increases.
 - B) decreases.
 - C) stays the same.
 - D) gets denser.

- 5) When evaporation at the ocean surface exceeds precipitation, the salinity of seawater
 - A) decreases.
 - B) stays the same.
 - C) increases.

- 6) Why is the increase of atmospheric carbon dioxide less than the amount of carbon dioxide emissions produced by burning of fossil fuels?
 - A) The behavior of greenhouse gases is difficult to predict.
 - B) Methane is a much more destructive greenhouse gas.
 - C) The oceans absorb a considerable amount of carbon dioxide from the atmosphere.
 - D) CFCs destroy more than just ozone.

- 7) The winds in a Northern Hemisphere cyclone spiral
 - A) clockwise toward its center.
 - B) clockwise away from its center.
 - C) counterclockwise away from its center.
 - D) counterclockwise towards its center.

- 8) The primary driving force of the earth's weather is
 - A) solar radiation.
 - B) temperature difference.
 - C) the oceans.
 - D) atmospheric change.

- 9) The earth's oceans likely evolved
 - A) from the condensation of water vapor from volcanic eruptions.
 - B) from the condensation of water vapor in the hydrogen-oxygen rich atmosphere.

- C) as the earth cooled.
- D) with the accumulation of rainfall.

- 10) As rising air cools,
- A) the relative humidity of the rising air increases.
 - B) its capacity for containing water vapor decreases.
 - C) none of these occurs
 - D) both of these occur

- 11) All of the earth's weather occurs in the
- A) lower levels of the atmosphere. B) troposphere.
 - C) troposphere and stratosphere. D) tropopause.

- 12) In a thunderstorm, the falling rain creates
- A) an updraft that generates a storm cell within the cloud.
 - B) an updraft, chilling the air and making it denser than the surrounding air.
 - C) a downdraft, chilling the air and making it denser than the surrounding air.
 - D) a downdraft, chilling the air and making it less dense than the surrounding air.

- 13) A rise in barometric pressure is an indication
- A) a stationary front. B) that a cold front has passed.
 - C) of an approaching cold front. D) orographic lifting.

- 14) Daily afternoon thunderstorms along the Gulf Coast are most likely caused by a
- A) continental tropical air mass. B) continental polar air mass.
 - C) maritime tropical air mass. D) maritime polar air mass.

- 15) When a cold air mass moves into a region occupied by a warm air mass, the contact zone is called
- A) a stationary front. B) an occluded front.
 - C) a cold front. D) a warm front.

- 16) The percentage of the earth's surface covered by ocean is about
- A) 60%. B) 80%. C) 50%. D) 85%. E) 70%.

- 17) When the Moon assumes its characteristic thin crescent shape, the position of the Sun is
- A) almost directly behind the earth, so Earth is between the Sun and the Moon.
 - B) at right angles to the line between the Moon and Earth.
 - C) almost directly in back of the Moon.

18) Comets orbit about the

- A) Sun.
- B) Earth.
- C) Moon.
- D) all of these
- E) none of these

19) Most meteors seen as shooting stars are about the size of

- A) very large buildings.
- B) small buildings.
- C) grains of sand.
- D) small continents.
- E) baseballs.

20) Totality is not completely dark during a lunar eclipse because

- A) the line between umbra and penumbra is not sharp.
- B) of tapering of sunlight due to the Sun's large size.
- C) the Moon is not directly in the earth's shadow.
- D) of light refracted by the earth's atmosphere.
- E) of the Sun's corona.

21) Neptune was discovered by irregularities in

- A) Saturn. B) Jupiter. C) Uranus. D) Earth. E) Pluto.

22) The Sun tends to bloat outward by nuclear fusion, and contract due to

- A) mass decrease.
- B) reduced gaseous pressures.
- C) nuclear fission.
- D) gravitation.
- E) its relatively slow spin.

23) If the earth is closest to the Sun in January, why is much of the northern hemisphere cold in January?

- A) The northern hemisphere is tilted away from the Sun in January.
- B) It is cold because it is winter.
- C) The southern hemisphere is tilted away from the Sun in January.
- D) Solar energy favors the equatorial regions.

24) Which of the following is not a major influence on atmospheric circulation?

- A) the unequal solar heating of the earth
- B) the major topographic features on the continents
- C) the Coriolis force
- D) the local variations in gravitational acceleration
- E) the distribution of continents and oceans

25) Compared with open ocean equatorial waters, open ocean water in the northern Pacific

- A) has a higher salinity content. B) is colder and less dense
- C) is colder and more dense. D) has a lower salinity content.

1) D

2) C

3) D

4) A

5) C

6) C

7) D

8) A

9) A

10) D

11) B

12) C

13) B

14) C

15) C

16) E

17) C

18) A

19) C

20) D

21) C

22) D

23) A

24) D

25) C