

## SIO 15 (FQ 2024) – Test 8 Homework #6 Questions

Test questions/choices of possible answers in the actual test may be modified from the questions below.

- 1) Why are day/night temperatures on Venus much higher than on Earth?
  - a) Venus is the closest terrestrial planet to the Sun
  - b) Venus produces its own heat through fission
  - c) Venus has a thick CO<sub>2</sub> atmosphere
  - d) Venus has 100 times more water vapor in the atmosphere than Earth
  
- 2) Which of these does NOT contribute to the urban heat island effect?
  - a) Paved ground retains heat
  - b) Water from many fountains heats the city
  - c) Lack of trees does not provide cooling through evaporation
  - d) Use of A/C heats air outside of buildings
  
- 3) Which of these is most relevant to the heat index effect?
  - a) Low temperature
  - b) Wind speed
  - c) Relative humidity
  - d) Moderate temperature
  
- 4) Which of these statements about the heat index is wrong?
  - a) Heat index raises apparent T for all temperatures equally
  - b) low relative humidity can lower apparent T below actual T
  - c) high relative humidity may not have a significant heat index if T is well below 70°F
  - d) heat index is strong for higher T
  
- 5) In cold weather, the wind chill becomes stronger with increasing wind speed.
  - a) true
  - b) false
  
- 6) In cold weather, the wind chill becomes stronger with decreasing temperature.
  - a) true
  - b) false
  
- 7) Which of these best describes weather associated with a cold front?
  - a) Weak winds
  - b) Precipitation, possibly even thunderstorms, along and immediately behind the front
  - c) fair weather
  - d) extended rain leading the front

- 8) What kind of front is associated with warm air climbing on top of cold air?
- a) Cold front
  - b) Warm front
  - c) stationary front
- 9) What kind of front is associated with warm air pushing beneath cold air?
- a) Cold front
  - b) Such a situation is not physically plausible
  - c) Warm front
  - d) Stationary front
  - e) Occluded front
- 10) Which of these U.S. states has the largest number of thunderstorms?
- a) Oklahoma
  - b) Florida
  - c) Texas
  - d) California
  - e) Alaska
- 11) Why does standing under a tree during a lightning storm increase the risk of being struck by lightning?
- a) Green tree leaves attract lightning
  - b) Tall trees provide shortest distance to (thunder)clouds
  - c) Trees do not provide shelter from rain
  - d) Trees have no physical connection to the ground
- 12) Where in the world do we find the highest occurrence of lightning flashes?
- a) Congo, Africa
  - b) Peru, Bolivia
  - c) Florida, USA
  - d) Italy, Europe
  - e) Borneo, Indonesia
- 13) What fraction of supercell thunderstorms spawn tornadoes?
- a) 5 %
  - b) 15 %
  - c) 25 %
  - d) 50%
  - e) 75%
- 14) In Tornado Alley, during which months do most tornadoes occur?
- a) Jan-Mar
  - b) Apr-Jul
  - c) Jul-Sep
  - d) Oct-Dec

- 15) As of November 2024, which of these U.S. states experience an exceptional drought?
- a) Texas
  - b) California
  - c) Nevada
  - d) Alaska
  - e) Florida
- 16) During which time did the U.S. experience the worst drought in the country's history?
- a) 2010-2020
  - b) early 2000s
  - c) 1970s
  - d) 1930s
  - e) early 1990s
- 17) What is the name of the worst drought event in U.S. history?
- a) Polar Vortex
  - b) Dust Bowl
  - c) Heat Climax
  - d) Dust Bucket
  - e) Desert Vortex
- 18) Which part of the U.S. experienced an unusual number of wildfires due to dry conditions in fall 2024?
- a) California
  - b) Northeast
  - c) High Desert
  - d) Florida
  - e) Hawaii
- 19) How do winds blow around a high pressure system in the northern hemisphere?
- a) counterclockwise
  - b) clockwise
  - c) eastward
  - d) westward
- 20) What does a gauge hydograph show?
- a) Amount of fallen rain
  - b) Water level in a river
  - c) Relative humidity in air
  - d) Amount of runoff in the city
  - e) Amount of runoff in the countryside