

SIO 15 (FQ 2024) – Test 7 Homework #5 Questions

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

- 1) About how high is the probability for the 100-year flood to occur in any given year?
 - a) 0.5%
 - b) 1%
 - c) 5%
 - d) 10%
 - e) 50%
- 2) About how high is the probability for the 100-year flood to occur in any given 100-year period?
 - a) 1%
 - b) 50%
 - c) 63%
 - d) 75%
 - e) 100%
- 3) The discharge of the 100-year flood is the same for all rivers in the U.S..
 - a) true
 - b) false
- 4) The 100-year flood has a larger discharge in an urban setting than in a rural setting.
 - a) True
 - b) false
- 5) The 100-year flood has a smaller discharge than the 10-year flood.
 - a) true
 - b) false
- 6) The Banqiao lake, China is a natural lake.
 - a) true
 - b) false
- 7) The dam at Lake Oroville, CA is the tallest in the U.S..
 - a) true
 - b) false
- 8) Which of these currently does not induce seismicity at Lake Oroville, CA.
 - a) Rain from passing hurricanes adds mass to the lake
 - b) The increased weight of the water
 - c) Reservoir sits on a earthquake fault line
 - d) Stored water may penetrate into local faults

- 9) The St. Francis Dam was supposed to provide water for which of these cities?
- a) Sacramento
 - b) San Francisco
 - c) San Diego
 - d) Los Angeles
- 10) Which of these natural factors contributed to the 1928 failure of the San Francis Dam?
- a) design flaw
 - b) defective soil foundation
 - c) exceptionally heavy rain
 - d) a devastating wildfire
 - e) a hurricane
- 11) Which of these is the most abundant gas in Earth's atmosphere?
- a) nitrogen
 - b) oxygen
 - c) water vapor
 - d) carbon dioxide
- 12) Water vapor is an important greenhouse gas.
- a) true
 - b) false
- 13) Apart from water vapor, which two other gases are the most abundant greenhouse gases in Earth's atmosphere?
- a) CO₂ and CH₄
 - b) CO₂ and CFCs
 - c) CO₂ and O₂
 - d) CH₄ and CFCs
- 14) How long is a night in San Diego during the spring equinox?
- a) 12 h
 - b) 10 h
 - c) 14 h
 - d) 8 h
- 15) On which of these dates are days longest in Cape Town, South Africa?
- a) December 21
 - b) June 21
 - c) March 20
 - d) September 23

16) On which of these dates are days longest in Dakar, Senegal?

- a) December 21
- b) June 21
- c) March 20
- d) September 23

17) Which of these cities experiences winter when it is summer in San Diego?

- a) Windhoek, Namibia
- b) Cairo, Egypt
- c) Tunis, Tunisia
- d) Addis Ababa, Ethiopia
- e) Tripoli, Libya

18) Which process ends adiabatic cooling?

- a) condensation
- b) evaporation
- c) corrosion
- d) photosynthesis

19) Which process ends adiabatic heating?

- a) condensation
- b) evaporation
- c) corrosion
- d) photosynthesis

20) Which of these statements about adiabatic heating is incorrect?

- a) Air contracts
- b) Air rises
- c) air sinks
- d) no exchange of energy with surrounding air

21) Why is the difference between day-night temperatures greater during a Santa Ana than during normal times?

- a) because Santa Anas happen during the middle of the winter
- b) severe lack of moderating water vapor
- c) because Santa Anas happen during early summer
- d) because there is more cloud cover during the day