

2017 Tarleton State University Invitational Contest
Environmental & Natural Resources CDE Written Exam

References:

Environmental Science – Fundamentals & Applications by L. DE Vere Burton

Managing Our Natural Resources by William G. Camp & Betty Heath-Camp 5th Edition

- 1 The branch of biology concerned with the relations between organisms and their environment...
 - A. Herpetology
 - B. Ecology
 - C. Biology
 - D. Ethology

- 2 Within which of the four major subsystems does life exist?
 - A. geosphere
 - B. surface of the earth
 - C. atmosphere
 - D. biosphere

- 3 A group of organisms of the same species that live in a specific geographical area is called...
 - A. a cohort
 - B. a population
 - C. a herd
 - D. a family

- 4 Organisms that use sunlight directly to make food (ex. plants) are called...
 - A. producers
 - B. reducer
 - C. consumers
 - D. decomposers

- 5 The largest population that an environment can support at any given time...
 - A. threshold
 - B. carrying capacity
 - C. maximum sustainable yield
 - D. holding capacity

- 6 The benefits humans get from ecosystems are called...
- A. health services
 - B. environmental services
 - C. ecosystem benefits
 - D. ecosystem services
- 7 The avoidance of the depletion of natural resources in order to maintain an ecological balance is known as...
- A. pollution
 - B. renewable resources
 - C. sustainability
 - D. nonrenewable resources
- 8 Which type of erosion is caused by steady, fast flow running of water?
- A. rill erosion
 - B. sheet erosion
 - C. splash erosion
 - D. gully erosion
- 9 The Wallace Line is generally cited as evidence of which of the following?
- A. asteroid impact
 - B. speciation
 - C. change in sea levels
 - D. natural selection
- 10 Which of the following is an example of primary succession?
- A. a transition from one ecosystem type to another
 - B. a plant community becoming simplified with fewer species and less biomass
 - C. an ecosystem diversifying, supporting more species and increases in biomass
 - D. plant communities are established in a lifeless environment, usually devoid of soil
- 11 Some examples of nonrenewable resources are... (Camp 414-425) (Burton 45-46)
- A. oil, sun, wind
 - B. wildlife, metals, oil
 - C. oil, fossil fuels, timber
 - D. minerals, soil, natural gas

- 12 Which of the following is a large naturally occurring community of flora and fauna occupying a major habitat?
- A. habitat
 - B. ecosystem
 - C. biome
 - D. tidal energy
- 13 Which of the world's biomes is known for having permanently frozen subsoils?
- A. grassland
 - B. coniferous forest
 - C. tundra
 - D. tropical rainforest
- 14 The hydrolytic cycle is driven by which of the following?
- A. solar energy
 - B. rivers
 - C. oceans
 - D. atmosphere
- 15 Which pair of terms are most similar in reference to the water cycle?
- A. transpiration and evaporation
 - B. precipitation and runoff
 - C. condensation and percolation
 - D. precipitation and percolation
- 16 Regarding population dynamics, what kind of growth is defined as the growth rate decreasing as the population reaches carrying capacity?
- A. no growth
 - B. exponential growth
 - C. linear growth
 - D. logistic growth
- 17 What is the primary source of the greenhouse gas Nitrous Oxide(NO_2)?
- A. deforestation
 - B. lightning
 - C. anthropogenic factors
 - D. wood burning stoves
- 18 Which of the following is defined as the measure of relative clarity of a liquid?
- A. turbidity
 - B. pH
 - C. solubility
 - D. salinity

- 19 Which macroinvertebrate's presence is commonly indicative of clean water?
- A. Mayfly larva
 - B. Gilled snails
 - C. Leech
 - D. Crayfish
- 20 The most abundant greenhouse gas in the earth's atmosphere is...
- A. hydrogen
 - B. water vapor
 - C. aerosols
 - D. ozone
- 21 Which of the following are greenhouse gases?
- A. helium, carbon dioxide, water vapor
 - B. carbon dioxide, methane, nitrous oxide
 - C. carbon dioxide, oxygen, nitrogen
 - D. all of these
- 22 Which of the following is a common control method for water caused erosion?
- A. deforestation
 - B. shelterbelt
 - C. prescribed burning
 - D. contour farming
- 23 What is not an example of industrial solid waste?
- A. contaminated soil
 - B. empty chemical containers
 - C. paper
 - D. shredded bark
- 24 A lentic habitat in a freshwater biome is one in which... (Burton 304)
- A. water flows freely
 - B. deeper water is colder than surface water
 - C. water stands still for long periods of time
 - D. plant growth is easily supported
- 25 While human activities are reducing the extent of many biomes, which of the following biomes is actually being spread as a result of human impact?
- A. deserts
 - B. rain forests
 - C. savanna
 - D. grasslands

- 26 Which of the following is a result of the process of composting?
- A. materials used for construction
 - B. high-grade manure
 - C. nutrient-rich soil conditioner
 - D. low-grade paper products
- 27 Which of the following terms is not a major threat to global biodiversity?
- A. invasive species
 - B. agricultural expansion
 - C. habitat fragmentation
 - D. habitat connectivity
- 28 In the water cycle, the conversion of water from vapor to liquid is known as...
- A. precipitation
 - B. condensation
 - C. transpiration
 - D. infiltration
- 29 Excessive phosphorus pollution has transformed many aquatic ecosystems from nutrient poor to nutrient rich environments which is an example of...
- A. eutrophication
 - B. fragmentation
 - C. bio magnification
 - D. bioaccumulation
- 30 Which following field(s) of study is/are related to environmental science?
- A. earth sciences
 - B. economics
 - C. biology
 - D. all of the above
- 31 What cellular process is the reverse chemical reaction of Photosynthesis?
- A. combustion
 - B. chemosynthesis
 - C. respiration
 - D. neutralization

- 32 The US government agency that is responsible for enforcing laws to reduce air and water pollution from agriculture, land development, factories, and mining is called (Burton 164)
- A. US Geological Service (USGS)
 - B. Natural Resources Conservation Service (NRCS)
 - C. Fish and Wildlife Agency
 - D. Environmental Protection Agency (EPA)
- 33 Which of the following terms refers to the feeding levels of categories of organisms in a community?
- A. primary consumers
 - B. producers
 - C. trophic level
 - D. secondary consumers
- 34 The order of strata or layers of vegetation in a forest from the top down are:
- A. Decomposition layer, shrub layer, canopy, herb layer
 - B. canopy, shrub layer, herb layer, forest floor
 - C. Forest floor, herb layer, shrub layer, canopy
 - D. Decomposition layer, herb layer, understory layer, shrub layer
- 35 Which of the following places particle sizes in order from largest to smallest?
- A. Clay, gravel, sand, slit
 - B. Gravel, sand, silt, clay
 - C. Silt, clay, sand, gravel
 - D. Clay, silt, sand, gravel
- 36 Interactions between members of different species is known as...
- A. interspecific
 - B. parasitism
 - C. commensalism
 - D. intraspecific
- 37 Which of the following steps is not part of the carbon cycle?
- A. respiration
 - B. Photosynthesis
 - C. extraction
 - D. transpiration
- 38 All of the following are Carbon sinks in the Carbon cycle except...?
- A. animals
 - B. the atmosphere
 - C. plants
 - D. the ocean

- 39 In the past 500 million years there have been ____mass extinctions
- A. 2
 - B. 50
 - C. 5
 - D. 10
- 40 What type of pollutants causes acidification of lake and reservoir surface waters?
- A. none of these
 - B. air and water pollutants
 - C. air pollutants only
 - D. water pollutants only
- 41 The relationship between two organisms is referred to as commensalism when
- A. Two organisms live together and one benefits while the other is neither benefited or harmed
 - B. Two organisms interact and one benefits while the other is harmed
 - C. One organism feeds on another organism
 - D. Two organisms live together or interact for the benefit of both
- 42 The single greatest cause of extinction is
- A. Poaching animals
 - B. Destruction or modification of habitat
 - C. Genetic modification
 - D. Global warming
- 43 Which of the following is least likely to be a dangerous consequence of leachate from a sanitary landfill?
- A. the leachate can contain toxic metal compounds
 - B. the leachate can be classified as toxic waste and have to be treated accordingly
 - C. the leachate can leak into nearby soils
 - D. the leachate can be at a high temperature
- 44 Which of the following is not a type of water pollution?
- A. diseases and pathogen pollution
 - B. nutrient pollution
 - C. sediment pollution
 - D. all of these are types of water pollution

- 45 Which of the following is a secondary air pollutant?
- A. tropospheric ozone
 - B. sulfur dioxide
 - C. carbon monoxide
 - D. nitric oxide
- 46 Name the two types of sources of water pollution?
- A. agricultural and municipal
 - B. anthropogenic and ecological
 - C. point source pollution and non-point source pollution
 - D. chemical and biological
- 47 One of the negative effects of air pollution is that it can cause problems in the ozone layer. Which class of chemicals are known to deplete ozone?
- A. carbon dioxide
 - B. methane
 - C. pesticides
 - D. chlorofluorocarbons(CFCs)
- 48 All of the following may be natural sources of pollution except_____.
- A. oil seeps
 - B. acid mine drainage
 - C. cows expelling methane
 - D. volcanic eruptions
- 49 Sheet, rill, and gully erosion are caused by_____.
- A. plowing
 - B. wind
 - C. clear cutting of trees
 - D. water
- 50 What type of soil has a relatively even mixture of sand, silt and clay?
- A. Loam
 - B. Mud
 - C. Clay
 - D. Loess