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Invitational 2022
Environmental & Natural Resources CDE

- 1 The branch of science dealing with the complex relationships among living things and their environment
 - A. Biology
 - B. Etiology
 - C. Ecology
 - D. Ethology

- 2 An example of a renewable resource is
 - A. Natural gas
 - B. Coal
 - C. Pete
 - D. Vegetation

- 3 Water, fuel, lumber, clothing, and food (plants and animals) are all _____ we rely upon every day.
 - A. Essential resources for all life on earth
 - B. Natural Resources
 - C. Unlimited resources
 - D. Man-made supplies

- 4 The available energy in a food web _____ moving up trophic levels.
 - A. Decreases
 - B. Increases exponentially
 - C. Does not change
 - D. Remains at equilibrium

- 5 The most important factor influencing how many and what types of organisms live in an ecosystem is the availability of...
 - A. Shelter
 - B. Water
 - C. Energy
 - D. Predators

- 6 Which nutrient cycle involves Biological, Geological, Chemical and Anthropogenic cycles?

Tarleton State University
Invitational 2022
Environmental & Natural Resources CDE

- A. Carbon
 - B. Nitrogen
 - C. Phosphorous
 - D. Lithium
- 7 Organisms unable to manufacture their own food are called...
- A. Predators
 - B. Decomposers
 - C. Consumers
 - D. Producers
- 8 The biotic community with its abiotic environment defines a...
- A. Population
 - B. Biome
 - C. Community
 - D. Ecosystem
- 9 Ecological succession is
- A. The conversion of native grass communities to productive cropland.
 - B. The unpredictable transformation of a biological community into a new community.
 - C. The predictable transformation of a site into different biotic communities over time.
 - D. The gradual transformation of wetland to desert.
- 10 A factor that DOES NOT affect the rate of soil formation is...
- A. Time
 - B. Frequency of plowing
 - C. Parent material
 - D. Topography
- 11 This species can be used to monitor ecological health and provide evidence of past or realized changes in the environment.
- A. Extinct
 - B. Invasive
 - C. Indicator
 - D. Endangered
- 12 Soil is most accurately defined as...
- B. A substance used in agriculture to support crop production

Tarleton State University
Invitational 2022
Environmental & Natural Resources CDE

- C. An aggregate injected into gas wells.
 - D. The bottom most layer of the earth's crust.
- 13 The responsible management or care of land, property or resources is...
- A. Horticulture
 - B. Silviculture
 - C. Sustainability
 - D. Stewardship
- 14 Soil particle size in order from smallest to largest...
- A. silt, clay, gravel, sand
 - B. clay, silt, sand, gravel
 - C. silt, sand, clay, gravel
 - D. clay, sand, silt gravel
- 15 What ecosystem dominates the central region of the United States?
- A. Mountain
 - B. Temperate Forest
 - C. Desert
 - D. Grassland
- 16 Clearing away natural vegetation can result in...
- A. Slowed erosion
 - B. Geologic erosion
 - C. Accelerated erosion
 - D. No erosion at all
- 17 What are the three points of the fire triangle?
- A. heat, fuel, oxygen
 - B. water, wind, heat
 - C. oxygen, light, heat
 - D. ignition temperature, fuel, heat
- 18 Alkalization, waterlogging, salinization, depletion of soil organic matter & deterioration of soil structure are all evidence of...
- A. Soil erosion

Tarleton State University
Invitational 2022
Environmental & Natural Resources CDE

- B. Soil degradation
 - C. Soil replacement
 - D. Soil fixation
- 19 Which of the following is a non-agricultural use of land?
- A. Service areas and farmsteads
 - B. Building railroad rights of ways
 - C. Woodlands and forestry
 - D. Planting crops
- 20 Which of the following is a true statement about soils and land use?
- A. With the right fertilizer, any soil can be used to grow soy beans
 - B. Any soil can be used for any purpose if it is modified
 - C. Generally, any soil can be used for sewage disposal without polluting ground water.
 - D. Specific types of soil vary in their suitability for construction, agricultural production and sewage disposal.
- 21 Chemicals fall into two use-categories, General -use and Restricted-use. Why are some chemicals categorized as restricted-use?
- A. Because many people want to use them for pest control
 - B. Because companies need to recover manufacturing costs
 - C. Because of their high toxicity and dramatic impact on the environment if applied improperly.
 - D. Because they pose the least health hazards
- 22 The _____ contains all types of surface waters that evaporate to begin the water cycle.
- A. Biosphere
 - B. Hydrosphere
 - C. Lithosphere
 - D. Atmosphere
- 23 The _____ absorbs and holds moisture evaporated from the earth's surface.
- A. Hydrosphere
 - B. Lithosphere
 - C. Biosphere

Tarleton State University
Invitational 2022
Environmental & Natural Resources CDE

- D. Atmosphere
- 24 When an excess amount of phosphorous invades a freshwater source, algal growth is stimulated giving the water body a cloudy, murky appearance which can cause changes in biological activities. This phenomenon is called...
- A. oligotrophism
 - B. phosphorous fixation
 - C. eutrophication
 - D. phosphorous cycle
- 25 _____ is not classified as hazardous waste.
- A. water soluble
 - B. corrosive
 - C. flammable
 - D. reactive
- 26 Acid rain is...
- A. a hazardous byproduct produced by mining
 - B. air pollutants which adhere to precipitation and falls to the earth
 - C. water sources contaminated by human sewage
 - D. a hazardous household chemical
- 27 In what year was The Environmental Protection Agency (EPA) created?
- A. 1970
 - B. 1965
 - C. 1975
 - D. 1960
- 28 Which of the following has a negative impact on grassland ecosystems?
- A. rotational grazing
 - B. fire suppression
 - C. mitigating soil erosion
 - D. prescribed fire
- 29 Water that percolates from surface sources to groundwater sources is called...
- A. runoff
 - B. floodwaters
 - C. wetlands

Tarleton State University
Invitational 2022
Environmental & Natural Resources CDE

- D. water recharge
- 30 The general pattern of weather conditions and rainfall over a period of years in a given region.
- A. Weather
 - B. Average annual rainfall
 - C. Climate
 - D. Global warming
- 31 Which of the following is NOT a major cause for the loss of wetlands in the U.S?
- A. Urbanization
 - B. Forest fires
 - C. Agriculture
 - D. Mining operations
- 32 A family of plants that use bacteria in nodes on their roots to convert atmospheric nitrogen to ammonia is called
- A. legumes
 - B. algae
 - C. gymnosperms
 - D. fungi
- 33 human activity that does not degrade the planet's carrying capacity for other humans forever.
- A. Stewardship
 - B. succession
 - C. Sustainability
 - D. environmentalism
- 34 An exchange of oxygen by all forms of life, both animals and plants, using oxygen and releasing food energy, carbon dioxide and water.
- A. Photosynthesis
 - B. Rumination
 - C. Nitrification
 - D. Respiration

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Invitational 2022
Environmental & Natural Resources CDE

- 35 What is a common method of desalination that would render oceanic water drinkable?
- A. evaporation
 - B. condensation
 - C. distillation
 - D. transpiration
- 36 It is important to correctly manage our mineral resources primarily because...
- A. They are nonrenewable resources
 - B. They are flammable
 - C. They are renewable resources
 - D. They are corrosive
- 37 The relationship between two organisms is referred to as mutualism when
- A. One organism feeds on another organism
 - B. Two organisms live together or interact for the benefit of both
 - C. Two organisms live together and one benefits while the other is neither benefited or harmed
 - D. Two organisms interact and one benefits while the other is harmed
- 38 Which of these is a benefit of prescribed fire?
- A. Increases disease occurrence
 - B. Improve quality of grasses
 - C. removes nutrients from the soil
 - D. All of the above
- 39 Land that drains into a pond, lake or stream is called the...
- A. Littoral zone
 - B. Creek
 - C. Watershed
 - D. Limnetic zone
- 40 Carrying Capacity is...
- A. The size of the population in an ecosystem
 - B. The amount of surface water available
 - C. The length of time an ecosystem can support a population
 - D. The maximum population size that a particular environment can support
- 41 A clinometer is a tool to measure what?

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Invitational 2022
Environmental & Natural Resources CDE

- A. Tree height
 - B. Tree diameter
 - C. Tree density
 - D. Tree species
- 42 where a source of fresh water, such as a river, meets the ocean creating a protected area for young crustaceans, mollusks and fish...
- A. Marsh
 - B. Playa
 - C. Estuary
 - D. Tidal zone
- 43 The process by which plants convert water and carbon dioxide into sugar is called...
- A. Respiration
 - B. Photosynthesis
 - C. Transpiration
 - D. CO₂ Fixation
- 44 A lentic habitat in a freshwater biome is one in which...
- A. water is not moving
 - B. water is deep
 - C. water is moving swiftly
 - D. water is shallow
- 45 Which of the following terms is not a major threat to global biodiversity?
- A. habitat fragmentation
 - B. invasive species
 - C. habitat connectivity
 - D. urban expansion
- 46 The order of strata or layers of vegetation in a forest from the top down are:
- A. canopy, herb layer, shrub layer, forest floor
 - B. decomposition layer, shrub layer, canopy, herb layer
 - C. decomposition layer, herb layer, understory layer, shrub layer
 - D. canopy, shrub layer, herb layer, forest floor
- 47 In the past 500 million years there have been ____ mass extinctions
- A. 5

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- B. 3
 - C. 7
 - D. 2
- 48 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. nitrogen
 - B. chlorofluorocarbons (CFCs)
 - C. carbon dioxide
 - D. methane
- 49 Name the two types of sources of water pollution?
- A. ecological and anthropogenic
 - B. non-agricultural and agricultural
 - C. biological and chemical
 - D. non-point source pollution and point source pollution
- 50 Contributions to medicine and agriculture, maintaining ecosystem goods and services, and enabling organisms and ecosystems to adapt to environmental changes are all benefits of...
- A. Keystone species
 - B. Ecological hot spots
 - C. Biodiversity
 - D. Exotic species