

**2010
Environmental Science and Natural Resources CDE Exam
Idaho FFA**

**There are 50 questions to this test
There is only 1 correct answer per question**

Carefully fill in the correct answer on the Scantron
Return this copy of the questions with your answers

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1. Observations that have been validated and are considered true are called:
 - a. theories
 - b. natural laws
 - c. hypotheses
 - d. facts

2. Which of the following provides the best example of a tertiary consumer?
 - a. Sheep
 - b. Maggots
 - c. Nuts and berries
 - d. Wolves

3. A perpetual natural resource is one that:
 - a. comes from an essentially inexhaustible supply
 - b. is found in a fixed amount in nature
 - c. has the ability to renew itself by natural processes
 - d. is also called a stock resource

4. All the populations of plants and animal species that live and interact in a given area at a particular time, as well as the chemical and physical factors that make up the non-living environment are called a[n] _____.
 - a. Ecosystem
 - b. Habitat
 - c. Population
 - d. Environmental Microcosm

5. There are 5 elements that make up about 95% of living organisms on earth. These elements are called macronutrients and they include:
 - a. Potassium, Phosphorus, Oxygen, Hydrogen, and Sodium
 - b. Carbon, Oxygen, Hydrogen, Nitrogen, and Phosphorus
 - c. Silica, Iron, Hydrogen, Potassium, and Carbon
 - d. Carbon, Hydrogen, Iron, Phosphorous, and Potassium

6. The layer or crust of the earth that is made of up rocks and soil is called the:
 - a. Atmosphere
 - b. Biosphere
 - c. Hydrosphere
 - d. Lithosphere

7. Respiration in plants is a process that:
 - a. produces energy from water and nutrients in soil
 - b. converts chemical bonds of organic compounds into energy for growth
 - c. gathers energy in sunlight to form sugar compounds
 - d. transports inorganic compounds soil to leaves

8. The place where an organism lives (including biotic and abiotic factors) is called its:
 - a. niche
 - b. habitat
 - c. community
 - d. population

9. The ability of a living system to restore itself to an original condition after being exposed to a disturbance that is not too drastic (such as fire, grazing, or insect damage) is called:
 - a. resilience
 - b. retrogression
 - c. tolerance
 - d. niche

10. Ruminant animals can use high fiber food (such as grass stems) effectively because:
 - a. They secrete enzymes in the rumen that break down cellulose
 - b. Considerable fermentation and particle breakdown occurs in the cecum
 - c. They have microorganisms in the rumen that break down cellulose
 - d. They digest soluble carbohydrates and pass structural carbohydrates through the digestive system

11. What percent of the average soil is organic matter?
 - a. 45%
 - b. 25%
 - c. 10%
 - d. 5%

12. Omnivores are:
 - a. flesh-eating animals
 - b. organisms that feed primarily on plant matter
 - c. consumers of both plant and animals
 - d. animals that feed primarily on bananas and coconuts

13. Which of the following is a consequence of soil compaction?
 - a. Increased soil salinity
 - b. Decreased absorption of water
 - c. Decreased soil fertility
 - d. Increased weathering of rocks

14. Soil texture refers to:
 - a. The size of soil particles
 - b. Nutritional status of the soil
 - c. Amount of soil organic relative to mineral matter
 - d. Arrangement of soil particles

15. The layer of partially and fully decomposed organic materials lying below the litter and immediately above the mineral soil on the forest floor is referred to as:
- duff
 - A-horizon
 - ground fuel
 - littoral mass
16. Suppose you did a study on the protein levels needed by pygmy rabbits and you find that rabbits can survive on forage that ranges from 5 to 23% protein. However, you also find that rabbits achieve the greatest levels of growth and reproduction on diets that range from 13 to 18% protein. This range of 13 to 18% protein is called the:
- homeostatic range
 - optimal range
 - range of tolerance
 - actual range
17. A temperature inversion occurs when a:
- layer of cold air traps a layer of warm air near the surface
 - layer of pollution traps a layer of warm air near the surface
 - fast increase in temperature creates a swift wind at the surface
 - layer of warm air traps a layer of cold air near the surface
18. The highest rate at which a renewable natural resource can be used without damaging its ability to renew itself is called the:
- recruitment rate
 - replacement rate
 - level of economic viability
 - level of sustained yield
19. Which of the following process converts carbon in fossil fuels to carbon dioxide in the atmosphere?
- Combustion
 - Fixation
 - Denitrification
 - Infiltration
20. Fixation is a word for several processes by which:
- Phosphate in the soil is converted to phosphorus gas in the air
 - Carbon dioxide in the air is converted to glucose
 - Solar energy is captured by rocks and water to heat the earth
 - Nitrogen gas in the air is converted to nitrate or ammonia
21. What type of farm activities can increase particulate air pollution?
- Pesticide aerosol from crop spraying
 - Dust from fields caused by wind erosion
 - Methane production from animal waste piles
 - Organic gasses that create odor in animal feedlots

22. The only gas in the atmosphere that can absorb the sun's dangerous ultraviolet radiation is _____.
- Nitrous Oxide
 - Ozone
 - Carbon Dioxide
 - Nitrogen
23. The device on an automobile that filters harmful pollutants out of the exhaust before it enters the air is a[n] _____.
- Radiator
 - Alternator
 - Catalytic Converter
 - Carburetor
24. What is the major cause of eutrophication in water bodies such as ponds, lakes, and streams?
- Excessive nitrogen and phosphorus runoff from surrounding lands
 - Immigration of invasive exotic plants such as Eurasian Milfoil
 - Oil accumulations on the surface that reduce photosynthesis
 - Increased UV-B radiation from the sun that damages bacteria and algae
25. About 70 percent of the earth is covered by water. Of this amount, about what percent of it is suitable for human use?
- less than 1%
 - 10%
 - 25%
 - 50%
26. This type of erosion can be responsible for up to 95% of soil loss due to erosion:
- Sheet erosion
 - Gully erosion
 - Splash erosion
 - Wind erosion
27. A stream in that is collecting and depositing sediment on its banks and stream bed is called:
- Aggrading
 - Degrading
 - Weathering
 - Re-channeling
28. The resources and processes that are supplied to humans by the natural ecosystem are:
- Biosphere balancing
 - Ecological services
 - Biological control
 - The greenhouse effect

29. Desertification is the process by which land becomes more desert-like and is associated with a loss of biomass production. Desertification is a result of:
- change in soil pH
 - loss of mineral soil particles by erosion
 - loss of soil organic matter
 - loss of soluble nutrients by leaching
30. Normal or natural rain has a pH of about:
- 1.5
 - 3.4
 - 5.6
 - 7.0
31. One of the most productive and diverse aquatic ecosystems are partially enclosed coastal bodies of water where salty seawater mixes with freshwater from streams and rivers. These ecosystems are called:
- Coral Reefs
 - Euphotic Zones
 - Benthic Zones
 - Estuaries
32. Control of pests by disrupting their ecological status, as through the use of organisms that are natural predators, parasites, or pathogens is known as:
- Integrated Pest Management (IPM)
 - Biological Control (or Biocontrol)
 - Genetically Modified Organisms (GMO's)
 - Organo-Culture
33. The study of human population changes in a region is called:
- Genetics
 - Ecology
 - Sociology
 - Demography
34. Arable land is land that:
- Has excessive infiltration rates
 - Can be used for growing crops
 - Is recovering from desertification
 - In late stage of succession
35. Some invasive plants reduce competition by releasing chemicals that inhibit growth of neighboring plants. Plants with this characteristic are called:
- mutualistic
 - allelopathic
 - parasitic
 - mutagenic

36. A noxious weed is one that:
- Requires control as designated by state or federal law.
 - An invasive plant that is toxic to animals.
 - A plant that escapes from agricultural fields into adjacent rangeland.
 - An exotic plant that creates an allergic reaction in humans.
37. Creating energy through biogas generation is mainly a result of _____.
- Putrification
 - Fermentation
 - Degradation
 - Denitrification
38. The area that replenishes water in an aquifer through down-ward percolation of precipitation is called the:
- Floodplain
 - Recharge zone
 - Watershed
 - Rain Shadow
39. A system of farming where crops or livestock are produced in forests that are being harvested for wood is call:
- poly-varietal cultivation
 - agroforestry
 - monoculture
 - contour farming
40. According to the Endangered Species Act (ESA), actions that "*harm harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species*" is called:
- Mitigating
 - Conserving
 - Taking
 - Volatilizing
41. What is the name of the area in which an individual animal conducts its normal daily activities (i.e., resting, foraging, and drinking)?
- Habitat
 - Home Range
 - Territory
 - Potential Range
42. What is an animal species that was once domesticated but now lives in a wild or naturalized setting and behave as wild animals?
- exotic
 - redomesticated
 - feral
 - wildlife

43. Hooved mammals that include deer, elk, cattle, and horses are called:
- Ruminants
 - Domestic
 - Artiodactyls
 - Ungulates
44. Herbaceous plants are those that:
- have woody stems.
 - die back to the ground after growth every year and are not woody.
 - grow in environments with high salt content.
 - keep green photosynthesizing leaves above ground over the winter.
45. In a forest, what is a snag?
- a dead tree that is still standing and providing wildlife habitat
 - a young coniferous tree that is important as forage for wildlife
 - an area of mature trees that is great wildlife habitat
 - a meadow of mostly grasses that provides important forage in forests
46. Ecosystems dominated by grasses and shrubs are called rangeland and they make up about ____% of the earth's land surface:
- 15
 - 30
 - 50
 - 65
47. Wilderness is defined as land that is:
- Dominated by large trees and used as wildlife habitat
 - Not strongly affected by humans where humans are "visitors"
 - Rangeland that are not useful for livestock grazing
 - Forest Service land used only for recreation
48. Human activities that cause changes in an ecosystem are called:
- Retrogressive
 - Biogenic
 - Anthropogenic
 - Interference
49. The government agency that oversees water quality and enforces the Clean Water Act:
- Natural Resources Conservation Service (NRCS)
 - Department of Environment (DOE)
 - National Oceanic and Atmospheric Administration (NOAA)
 - Environmental Protection Agency (EPA)
50. Pollutants that are not broken down by natural processes are called:
- Perpetual
 - Non-degradable
 - Biodegradable
 - Non-renewable