

2025

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

- There are 50 questions on this test.
- There is only one correct answer per question.
- Carefully fill in the correct answer on the Scantron.
- Return this copy of the questions to the test monitor before leaving the room.
- Good luck.

1. What is a relationship in which two animals live together where one benefits and the other is not affected? For example, dung beetles feeding on the dung from bison with no effect on the bison.
 - a. Amensalism
 - b. Commensalism
 - c. Mutualism
 - d. Parasitism

2. When studying environments, qualitative data are best described as characteristics that are:
 - a. recorded in numbers like length or weight
 - b. describe characteristics like color or shape
 - c. rankings among organisms such as "greater" or "less than"
 - d. changes occurring over time like "increasing" or "decreasing"

3. Fixation is a word for several processes by which:
 - a. Phosphate in the soil is converted to phosphorus gas in the air.
 - b. Carbon dioxide in the air is converted to glucose.
 - c. Solar energy is captured by rocks and water to heat the earth.
 - d. Nitrogen gas in the air is converted to nitrate or ammonia.

4. Suppose you did a study on the effect of water pH on tiger salamanders, and you found that salamanders can live in water with a pH between 4.2 and 7.3 (and they cannot survive if the pH is lower than 4.2 or higher than 7.3). What would you call this range in pH from 4.2 to 7.3?
 - a. Optimal range
 - b. Potential range
 - c. Range of tolerance
 - d. Range for neostasis

5. Which of the following soil formations result from soils deposited by wind?
 - a. Alluvial fans
 - b. Aeolian dunes
 - c. Colluvial mass wasting
 - d. Rill erosion

6. A Biltmore stick, Abney level, Haga altimeter and a Suunto clinometer are all tools to measure:
 - a. tree height
 - b. tree species
 - c. tree diameter
 - d. tree density

7. A coastal aquatic ecosystem where fresh water from rivers and streams mixes with salty sea water is called:
 - a. a watershed
 - b. a euphotic zone
 - c. a biome
 - d. an estuary

8. 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:
 - a. littoral mass
 - b. duff
 - c. C-horizon
 - d. ladder fuel

9. Vegetation communities adjacent to streams or ponds that are different than surrounding vegetation because of high available moisture are called:
 - a. Riparian areas
 - b. Watersheds
 - c. Uplands
 - d. Xeric sites

10. A water habitat in which water tends to stand for long periods of time is called a _____ habitat.
 - a. murky
 - b. turbid
 - c. lotic
 - d. lentic

11. _____ is a species of fish adapted to cold, running water in streams.
- a. Carp
 - b. Catfish
 - c. Trout
 - d. Sunfish
12. In a forest, what is a snag?
- a. A dead tree that is still standing and providing wildlife habitat.
 - b. A young coniferous tree that is important as forage for wildlife.
 - c. An area of mature trees that is excellent wildlife habitat.
 - d. A meadow of mostly grass that provides important forage in forests.
13. Grasses generally survive wildfire and dominate areas with frequent wildfire because:
- a. Grasses contain chemicals that make them less flammable than shrubs.
 - b. Grasses are annual plants that survive fire by depositing seed at ground level.
 - c. Grasses have deeper roots than shrubs or trees to access soil moisture and recover after fire.
 - d. Grasses have meristems at the base of the plant that are usually not damaged by fire.
14. Plants that are called grass-like plants would include:
- a. Succulent plants like cactus
 - b. Small rhizomatous shrubs
 - c. Most wildflowers
 - d. All sedges and rushes
15. Hooved mammals that include deer, elk, cattle, and horses are called:
- a. Artiodactyls
 - b. Ruminants
 - c. Domestic
 - d. Ungulates
16. Organisms that are sensitive to pollution and used to determine the suitability of a living environment are called _____ species.
- a. indicator
 - b. invasive
 - c. umbrella
 - d. seral
17. The Federal Act that requires that the environmental impacts of actions on federal land must be evaluated and that the public be involved in management decisions is the:
- a. National Environmental Policy Act
 - b. Homestead Act
 - c. Taylor Grazing Act
 - d. Endangered Species Act
18. Wilderness land can be defined as:
- a. areas of land dominated by large trees and used as wildlife habitat.
 - b. areas of rangeland that are not useful for livestock grazing.
 - c. U.S. Forest Service land used only for recreation.
 - d. ecosystems that have not been strongly affected by humans and where people are only visitors.
19. Wildfires can reduce air quality by emitting large quantities of _____ into the air.
- a. sulfur dioxide
 - b. methane
 - c. particulate matter
 - d. nitrogenous steam
20. Which of the following is a major product of decaying plant or animal matter?
- a. Chlorofluorocarbons
 - b. Methane
 - c. Nitrous oxide
 - d. Ozone

21. Examples of non-renewable energy sources include:
- a. Coal and natural gas
 - b. Wood and biofuels
 - c. Wind turbines
 - d. Geothermal energy
22. There are 5 natural elements that make up about 95% of the mass of living organisms on earth. These elements are called macronutrients, and they include:
- a. Carbon, Oxygen, Hydrogen, Nitrogen, and Phosphorus
 - b. Potassium, Oxygen, Hydrogen, Nitrogen, and Phosphorus
 - c. Carbon, Oxygen, Hydrogen, Sodium, and Iron
 - d. Carbon, Iron, Hydrogen, Nitrogen, and Zinc
23. Characteristics of drought tolerant plants include:
- a. Shallow roots
 - b. Large leaves
 - c. C-3 photosynthesis pathways
 - d. Hairy or gray leaf surfaces
24. In the field of ecology, a community is best defined as:
- a. Any individual plant, animal, or microbe
 - b. Populations of plants, animals, and microbes in the same geographical area
 - c. A kind of plant, animal, or microbe that can interbreed and produce fertile young
 - d. A group of plants, animals, and microbes and their abiotic surroundings
25. What is a subsurface layer of water-bearing material, such as permeable rock or unconsolidated materials like sand and gravel, that can store and transmit water?
- a. Aquifer
 - b. Playa
 - c. Watershed
 - d. Wetlands
26. The location and extent of the terrestrial ecosystems on the globe are primarily determined by:
- a. wind and solar radiation
 - b. temperature and precipitation
 - c. human activity
 - d. albedo and fixation
27. The study of soil is called:
- a. Agronomy
 - b. Ecohydrology
 - c. Biogeology
 - d. Pedology
28. The relatively constant temperature observed in large bodies of water occurs because water has:
- a. Low melting point
 - b. High viscosity
 - c. High surface tension
 - d. High specific heat
29. What do all rangelands have in common?
- a. Currently grazed by some type of livestock.
 - b. Require periodic cultivation to be productive.
 - c. Include grazing and fire as important ecological processes.
 - d. Are dominated by exotic annual grasses.
30. What is the term for the ability of soil to transmit water and air?
- a. Fertility
 - b. Porosity
 - c. Compaction
 - d. Permeability

31. Which of the following trees are examples of hardwoods?
- a. Pines and Spruces
 - b. Tamaracks and cedar
 - c. Oaks and Maples
 - d. Willows and Rushes
32. Which type of herbicide kills all plant types, regardless of species?
- a. Pre-emergent herbicide
 - b. Residual herbicide
 - c. Broadleaf herbicide
 - d. Non-selective herbicide
33. There are 573 national wildlife refuges in the U.S. Over 300 of these refuges (52%) were established especially for:
- a. endangered species
 - b. rare plants
 - c. migratory waterfowl
 - d. fish and amphibians
34. Recreation on forests and rangelands can be described as extractive or amenity. Which of the following would be an amenity form of recreation?
- a. Bird watching
 - b. Hunting and fishing
 - c. Panning for gold
 - d. Collecting native berries
35. When an underground fuel tank has leaked some of its contents into the surrounding soil it is considered...
- a. A causal agent
 - b. Non-point source pollution
 - c. Point source pollution
 - d. Sequestered
36. Destruction of the ozone layer in the stratosphere has resulted in an increase in:
- a. Red radiation
 - b. Green radiation
 - c. Yellow radiation
 - d. Ultraviolet radiation
37. Which of the following is an example of a warm-water fish species?
- a. Rainbow trout
 - b. Brook trout
 - c. Bluegill
 - d. Arctic char
38. The maximum rate at which a population of animals or plants can increase if all members survive and reproduce at the highest rate possible is called:
- a. Biotic Potential
 - b. Optimal Range
 - c. Seral Rate
 - d. Potential Natural Community
39. Plants that undergo the process of nitrogen-fixing by absorbing nitrogen gas (N₂) and converting it to nitrates are called _____.
- a. cool season grasses
 - b. legumes
 - c. nitrators
 - d. warm season grasses
40. Spotted knapweed is an invasive plant that reduces competition from other plants by releasing compounds that are toxic to adjacent plants. This action is called:
- a. Mutualistic
 - b. Allelopathic
 - c. Parasitic
 - d. Symbiotic
41. Which of the following is a consequence of soil compaction?
- a. Increased soil salinity
 - b. Increased weathering of rocks
 - c. Decreased absorption of water
 - d. Decreased soil fertility

42. Which of the following is a common wildlife management practice?
- Draining wetlands
 - Introducing non-native species
 - Establishing food plots
 - Removing keystone predators
43. Which of the following tools is commonly used to measure tree diameter?
- Clinometer
 - Increment borer
 - Diameter tape
 - Biltmore stick
44. Rangeland carrying capacity is the:
- direction of change in range condition.
 - number of animals that land can support over time without causing land degradation.
 - number of animals a manager decides to put on the land.
 - rates at which wildlife grazed rangeland before cattle were introduced to North America.
45. Fish death can occur when a pond "rolls over" mixing deep water with surface water because:
- fish experience temperature shock
 - food sources become limited
 - low levels of dissolved oxygen occur
 - fish turn upside down and become disoriented
46. Of the major types of forests, which of the following has the coldest climate?
- Tropical rainforest
 - Coastal rainforest
 - Deciduous forest
 - Coniferous forest
47. Fire may affect an ecosystem in all of the following ways except:
- promoting the growth of deciduous trees like oak.
 - releasing the inorganic nutrients bound in organic matter like wood.
 - removing excess debris that can decrease germination of some plants.
 - controlling insect pests by removing the excess detritus in which they live.
48. Fish that migrate between freshwater and saltwater are called?
- Diadromous
 - Desalinous
 - Monogamous
 - Pelagic
49. Ruminant animals can use high fiber forage (such as grass stems) effectively because:
- They secrete enzymes in their saliva that break down cellulose
 - They have specially shaped teeth that grind cellulose into digestible energy
 - They have microorganisms in the rumen that break down cellulose
 - They digest soluble components and pass the remaining fiber through the digestive system
50. Brackish water is
- colored black.
 - located in tidal areas.
 - collected from small creeks and branches.
 - mostly high in salinity (20-34 ppt).