

2022  
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.

1. In a study, it was found that the birthweight of elk calves was directly related to the body condition of the mother elk. This relationship between calf birthweight and mother body weight is called a: \_\_\_\_\_
  - a. Hypothesis
  - b. Qualitative Statistic
  - c. Fact
  - d. **Correlation**
  
2. Wind and solar energy are \_\_\_\_\_ resources
  - a. **perpetual**
  - b. pneumatic
  - c. exhaustible
  - d. non-renewable
  
3. When a pasture is grazed to a level that is not likely to damage the future productivity of the pasture it is being grazed at a \_\_\_\_\_ rate:
  - a. multiple use
  - b. overgrazed
  - c. non-renewable
  - d. **sustainable**
  
4. Most of the solar radiation that reaches the earth's atmosphere is:
  - a. **reflected off clouds, dust, and the earth's surface**
  - b. absorbed by plants for photosynthesis
  - c. absorbed by the atmosphere, land, or water to heat the earth
  - d. used to generate wind and wave
  
5. Vitamins and minerals provided to livestock to sustain good health are considered:
  - a. Macronutrients
  - b. **Micronutrients**
  - c. Non-essential nutrients
  - d. Pseudonutrients
  
6. About 70% of the earth is covered by water. Of this amount, about what percent of it is suitable for human consumption and use?
  - a. **less than 5**
  - b. 10
  - c. 25
  - d. 50
  
7. Dairy and beef cattle affect the atmosphere and global warming by:
  - a. Converting nitrogen into protein
  - b. Exhaling oxygen
  - c. Sequestering carbon in their bodies
  - d. **Erecting or burping methane from their rumen**
  
8. An adaptation of animals where they lower their metabolic rate to survive winter or cold conditions is called:
  - a. Recruitment
  - b. Senescence
  - c. Poikilothermy
  - d. **Hibernation**
  
9. Grazing wildlife like deer and elk often deal with high temperatures in the summer by:
  - a. **grazing at night**
  - b. increasing their metabolic rate
  - c. catabolizing body fat
  - d. migrating to lower elevations
  
10. The primary products of photosynthesis are:
  - a. Proteins
  - b. **Carbohydrates**
  - c. Fats
  - d. Amino Acids

11. The primary source of food energy in a food chain comes from:
- a. Decomposers
  - b. **Producers**
  - c. Consumers
  - d. Water
12. Which of the following could be called an ecological community?
- a. The number of wild horses in Wyoming
  - b. All the black-capped vireos in the Hill Country of Texas
  - c. **All of the plants, animals, and microbes in the Bolivian Altiplano Region**
  - d. All of the living organisms on Moscow Mountain plus all the abiotic factors that affect these biotic entities
13. An area within an animal's habitat that they will defend to keep other animals out is called a:
- a. Home range
  - b. **Territory**
  - c. Habitat
  - d. Niche
14. Biodiversity is best described as the \_\_\_\_\_ in an ecosystem
- a. **variety of species and life forms**
  - b. multitude of connection between abiotic and biotic component
  - c. number of endangered or threatened species
  - d. number of individuals of a species in ecosystem
15. The shorter the food chain, the:
- a. lower the amount of biomass
  - b. greater the biodiversity
  - c. fewer the number of organisms supported
  - d. **less the loss of energy as heat**
16. Herbivores that eat mostly the new leaves and stems of woody plants are called:
- a. **Browsers**
  - b. Omnivores
  - c. Intermediate feeders
  - d. Ungulates
17. Detritus feeders are organisms that:
- a. Eat animal flesh only
  - b. **Consume dead plants and animals**
  - c. Are a type of phytoplankton
  - d. Get their energy by breaking apart phosphorous-based compounds
18. Ruminant animals like elk or cattle have a large digestive organ (i.e., rumen) that contains microbe that break cellulose bonds. The relationship between the ruminant animal and the microbes is a \_\_\_\_\_ relationship:
- a. Antagonistic
  - b. Competitive
  - c. Abiotic
  - d. **Symbiotic**
19. Secondary succession is different from primary succession because it:
- a. begins with bare rock
  - b. **occurs on sites that were previously vegetated**
  - c. takes much longer to show noticeable change
  - d. does not involves competition between plants

20. The process by which drought, fire or overgrazing drive an ecosystem to a lower successional state is known as:
- a. **Retrogression**
  - b. Simplification
  - c. Regeneration
  - d. Procession
21. Ecosystems in an early stage of succession are usually characterized by:
- a. complex and well-developed soils
  - b. complex food chains and great biodiversity
  - c. **many pioneer species and low biodiversity**
  - d. high variation in annual precipitation
22. Swamps, marshes, bogs, and potholes would all be examples of:
- a. **Wetlands**
  - b. Riparian areas
  - c. Lakes
  - d. Estuaries
23. The large grassland areas of Africa are unique because they contain large deciduous trees (mostly Acacia trees) that are adapted to fire. This type of tropical grassland with scattered deciduous trees is called a:
- a. Tundra
  - b. **Savanna**
  - c. Temperate forests
  - d. Scrublands
24. The terrestrial ecosystem that has the greatest biomass and species diversity are:
- a. Grasslands
  - b. Savannas
  - c. **Tropical rain forests**
  - d. Deserts
25. Low-growing shrublands that occur at high elevation and are characterized by low temperatures, poor nutrients, and short growing seasons are called:
- a. Elevational savannas
  - b. Mountain meadows
  - c. **Alpine tundra**
  - d. Arctic tundra
26. Which of the following biomes has the greatest proportion of total biomass below ground or the greatest Root:Shoot ratio:
- a. **Prairies**
  - b. Cactus deserts
  - c. Tropical rainforests
  - d. Shrublands
27. An important factor that maintains grassland ecosystems is:
- a. Grazing by insects
  - b. **Fire**
  - c. Humidity
  - d. Shallow soils
28. Soils characterized by a mix of sand, silt and clay are called:
- a. Loess
  - b. Mixed sediment
  - c. Alluvial
  - d. **Loam**
29. The layer of partially and fully decomposed organic materials lying directly on top of the mineral soil and just below the litter on the forest floor is referred to as:
- a. Littoral mass
  - b. **Duff**
  - c. Humus
  - d. Ladder fuel

30. The gradual breakdown of rock into soil particles by natural forces is called:
- a. Leaching
  - b. Weathering**
  - c. Degradation
  - d. Sinuosity
31. Soils that develop from windblown parent material are called \_\_\_\_\_ soils.
- a. alkaline
  - b. colluvial
  - c. draught
  - d. loess**
32. The land type on earth that can be used to grow crops are called \_\_\_\_\_ lands.
- a. transhumant
  - b. arable**
  - c. alluvial
  - d. depositional
33. Which of the following is a consequence of soil compaction?
- a. Decreased soil fertility
  - b. Decreased infiltration of water**
  - c. Increased soil salinity
  - d. Increased weathering of rocks
34. An underground layer of water housed in permeable rock, rock fractures or unconsolidated materials is known as:
- a. A lotic zone
  - b. An aquifer**
  - c. A watershed
  - d. A seep
35. Vegetation communities adjacent to streams or ponds that are a transition zone between upland plant communities and fully aquatic systems are called:
- a. Watersheds
  - b. Riparian areas**
  - c. Xeric sites
  - d. Benchlands
36. Streams that flow in the spring or after heavy rain but are dry in the summer are called:
- a. Intermittent**
  - b. Perennial
  - c. Lentic
  - d. Spring-fed
37. Biological control of invasive plants involves:
- a. Determining the phenological stage at which herbicides are most effective.
  - b. Suppressing weeds with living organisms including parasites or pathogens.**
  - c. Changing the nutrients available in the ecosystem to suppress weeds.
  - d. Guiding succession to facilitate site modification and reduce weed competitiveness.
38. Why are invasive annual grasses like cheatgrass and medusahead very damaging to sagebrush steppe ecosystems in Idaho?
- a. They are fine fuel that promote frequent wildfires.**
  - b. Livestock eat them and die when these grasses causing rumen impaction.
  - c. Sage-grouse and other upland game birds become entangled in them.
  - d. They outcompete sagebrush and reduce its abundance.
39. In a forest, what is a snag?
- a. a young coniferous tree that is important as forage for wildlife.
  - b. a living tree that has a scar from previous fires.
  - c. a meadow of mostly grasses that provides important forage in forests.
  - d. a dead tree that is still standing and providing important wildlife habitat.**

40. Which of the following trees are examples of hardwoods?
- a. Pines & Spruces
  - b. Tamaracks & Cedar
  - c. **Oaks & Maples**
  - d. Willows & Rushes
41. A forest fire intentionally set under specific conditions of fuel, temperature, wind, and relative humidity would be called a:
- a. **Prescribed Fire**
  - b. Wildfire
  - c. Wildland Fire Use
  - d. Policy Fire
42. Changing the grazing season in a pasture from summer to winter to reduce the abundance of cheatgrass is what type of weed control?
- a. Chemical
  - b. Mechanical
  - c. Biological
  - d. **Cultural**
43. A plant that contains natural chemicals that can cause digestive, neurological, or physiological damage to animals when eaten are called:
- a. Anoxic
  - b. **Toxic**
  - c. Noxious
  - d. Exotic
44. Ducks, geese, and swans are all examples of:
- a. **Migratory Waterfowl**
  - b. Upland Game Birds
  - c. Neotropical Migrants
  - d. Exotic Introduced Birds
45. Are horses ruminants?
- a. Yes
  - b. **No**
46. What is an animal that was once domesticated but now lives in a wild or naturalized setting and behaves as a wild animal would be called a \_\_\_\_\_ species
- a. regulated
  - b. **feral**
  - c. re-domesticated
  - d. wildlife
47. There are 567 national wildlife refuges in the U.S. Over half of these refuges were established especially for:
- a. endangered species
  - b. rare plants
  - c. **migratory waterfowl**
  - d. big game like deer and elk
48. In the Endangered Species Act, a species likely to become endangered within the foreseeable future is called:
- a. Endemic
  - b. Indiginous
  - c. **Threatened**
  - d. Resilient
49. 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. Expanded Homestead Act
  - c. Taylor Grazing Act
  - d. Endangered Species Act
50. When managing or conserving land, the acronym "BMP" stands for:
- a. Beneficial Monitoring Program
  - b. Biological Monitoring Program
  - c. **Best Management Practices**
  - d. Beneficial Management Practices