

2014
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

Do Not Write on This Question Sheet

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1. Using the scientific method to test a hypothesis and reach a conclusion requires:
 - a. **A null hypothesis**
 - b. A plausible theory
 - c. Collection of observations over several years
 - d. Qualitative and quantitative data

2. Which sphere contains all of the plant and animal life on the earth's surface?
 - a. Hydrosphere
 - b. Atmosphere
 - c. **Biosphere**
 - d. Lithosphere

3. A large terrestrial ecosystem that can be easily recognized by its own unique vegetation, animals, and climate is called a:
 - a. **Biome**
 - b. Vegetation region
 - c. Temporal zone
 - d. Continent

4. Of the major types of forests, which has the coldest climate?
 - a. Tropical rainforest
 - b. Deciduous forest
 - c. Mesophyllic forest
 - d. **Coniferous forest**

5. Ozone in the stratosphere:
 - a. Absorbs ultraviolet radiation.
 - b. Protects plants from severe ultraviolet damage.
 - c. Protects humans from sunburns and skin cancer.
 - d. **All of the above.**

6. Which of the following forms of energy is a renewable resource?
 - a. Synthetic natural gas
 - b. Breeder fission
 - c. **Biomass**
 - d. Oil shale

7. Nitrates are used in making _____, which are the building blocks of protein:
 - a. Glucuronic acids
 - b. Neurons
 - c. Glycosides
 - d. **Amino acids**

8. Which of the following provides the best example of a primary consumer?
 - a. Maggot
 - b. **Rabbit**
 - c. Coyote
 - d. Grass

9. The difference between primary and secondary succession is that secondary succession occurs:
 - a. **After plants are removed by actions such as fire or cultivation but soil remains on the site.**
 - b. After a natural disaster like a volcano or flood covers or removes the existing soil on a site.
 - c. When lichens have begun to break down parent rock into soil.
 - d. When invasive plants displace native plants.

10. 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. A habitat.
 - b. An ecosystem.**
 - c. A population.
 - d. An environmental microcosm.
11. What factor does not affect the rate of photosynthesis?
- a. Quality of light
 - b. Amount of light
 - c. Available moisture
 - d. Ultraviolet radiation**
12. The gradual transformation of a plowed field into a perennial grassland over the passage of years is an example of:
- a. Limiting factors.
 - b. A community rather than an ecosystem.
 - c. Ecological succession.**
 - d. Ecological transformation.
13. The mantle of rock and soil that wraps the outer layer of the earth is called the:
- a. Hydrosphere
 - b. Biosphere
 - c. Lithosphere**
 - d. Atmosphere
14. Which of these agricultural practices has made it possible to meet the current world food demands?
- a. Conversion of wetlands to croplands.
 - b. Use of fertilizer and improved genetics.**
 - c. Food production demands have actually decreased in the last 20 years.
 - d. Deforestation to make room for croplands.
15. Which of the following is not part of the nitrogen cycle?
- a. Denitrification
 - b. Sublimation**
 - c. Nitrogen fixation
 - d. Ammonification
16. The study of soil is called:
- a. Agronomy
 - b. Ecohydrology
 - c. Biogeology
 - d. Pedology**
17. Soil texture refers to:
- a. The size of soil particles.**
 - b. Fabric placed on top of the soil to reduce weed growth.
 - c. Amount of soil organic relative to mineral matter.
 - d. Arrangement of soil particles.
18. Humus is (or refers to):
- a. One of the inorganic, mineral constituents of the soil.
 - b. All the soil microorganisms and macroorganisms.
 - c. Finely divided bits of leaves, twigs, and other litter.
 - d. A residue of organic matter that remains after most of the rotting of detritus has occurred.**

19. What is the purpose of using impermeable clays in constructing landfills?
- Impermeable clays do not settle as much as other clays.
 - To prevent leaching of household chemicals into groundwater.**
 - Impermeable clays are more conducive to plant growth.
 - It prevents the formation of ozone and radon.
20. IPM (Integrated Pest Management) does not utilize which of the following practices?
- The use of biological organisms to combat harmful pests.
 - The use of chemicals to kill pests as frequently as possible.**
 - A rotation of crops to kill specific pests.
 - Scouting of pests to determine the type of pest and extent of damage.
21. Controlling weeds by digging them up with a shovel is what type of weed control?
- Chemical
 - Mechanical**
 - Biological
 - Cultural
22. Which of the following is the best description of Class I land?
- Moderately good land that can be cultivated and farmed regularly but that has some important limitations.
 - Land that may be in a frequent floodplain.
 - Very productive land that can be cultivated with minimal erosion control measures.**
 - Land that may be severely steep, greater than 30% slope, with several eroded gullies.
23. The soil type that is the best for plant growth is:
- Sandy
 - Clayey
 - Loamy**
 - Gravelly
24. The _____ is the zone with the most biological activity in soils.
- A horizon**
 - B horizon
 - C horizon
 - R horizon
25. Very sandy soils are not good for agriculture because of their poor:
- Aeration
 - Water-holding capacity**
 - Workability
 - pH
26. What is no-till crop production?
- Preparing a good seedbed for crops
 - Plowing ground, but not disking
 - The planting of seeds in the previous year's residue**
 - Disking ground prior to planting
27. Iron, manganese, molybdenum and iodine are:
- Macronutrients
 - Micronutrients**
 - Not required by plants
 - Not required by animals
28. Lakes that have few dissolved minerals in water (like phosphorus and potassium) and low biomass productivity are referred to as:
- Autotrophic
 - Eutrophic
 - Oligotrophic**
 - Mesotrophic

29. Which of the following is not an example of point source pollution?
- A downstream fish kill**
 - An above ground tank leak
 - Accidental manure spill
 - A lagoon overflow
30. The area that replenishes water in an aquifer through downward percolation of precipitation is called the:
- Floodplain
 - Recharge zone**
 - Watershed
 - Rain shadow
31. The following are potential sources of point source pollution:
- Extractive and amenity forms of recreation
 - Construction and urban development
 - Crop production and grazing
 - Industry output and sewage treatment plants**
32. 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)**
33. The hydrologic cycle receives its energy from:
- Shifts in ocean tides.
 - Solar radiation (i.e., the sun).**
 - Geothermal radiation (i.e., the earth's core).
 - Lunar movement patterns (i.e., the moon).
34. Why is salinization of soils a "bad" thing for croplands?
- It decreases the amount of water available to plants.
 - It decreases crop yields per acre.
 - It can lead to desertification.
 - All of the above.**
35. Pollutants that are broken down by natural processes are called:
- Perpetual
 - Non-degradable
 - Biodegradable**
 - Non-renewable
36. Rangeland carrying capacity is the:
- Direction of change in range condition.
 - Number of animals that land can support without causing land degradation.**
 - Number of animals a manager decides to put on the land.
 - Physical space available for grazing animals.
37. The number of grazing animals that a piece of land can support on a long-term basis without causing damage to the ecosystem is called:
- Grazing Suitability
 - Carrying Capacity**
 - Stocking Rate
 - Proper Use Factor

38. Animals that eat mostly the new leaves and stems of woody plants are called:
- Omnivores
 - Intermediate feeders
 - Browsers**
 - Autotrophs
39. Plants adapted to soils with high salt content and saline conditions are called:
- Eukaryotes
 - Homeotherms
 - Halophytes**
 - Legumes
40. The major ways in which forests affect the global climate is:
- Through the effects of photosynthesis and transpiration.**
 - By serving as windbreaks.
 - By affecting the phosphorus cycle.
 - By converting ozone into carbon dioxide.
41. Old-growth forests are:
- The mid-successional vegetative state of any forest.
 - Forests with lots of spotted owls and ground squirrels.
 - Forests with very large, very old trees.**
 - The most common forest type in eastern U.S.
42. To produce fire, these three things must be present at the same time:
- Fuel, heat, and oxygen.**
 - Fuel, low humidity, and oxygen.
 - Fire, grass, and wind.
 - Dry conditions, high winds, and a spark.
43. One of the effects of prescribed fire is:
- Increased fuel available for wildfire.
 - Reduced risk of invasion by annual plants.
 - Control of invasive woody plants.**
 - Improved air quality.
44. During the growing season after a fire has occurred, wild and domestic herbivores will:
- Be attracted to the burned area.**
 - Avoid the burned area.
 - Show neither preference for nor avoidance of burned areas.
 - Eat plants in the burned area but lose weight because plants are less nutritious after fire.
45. What is one common land-use practice that contributes to creating increased vegetation in ponds or lakes, which can be detrimental to fish populations?
- Excessive salt use on roads near lakes or ponds during winter
 - Improper off-road vehicle use that increases erosion
 - Fertilizer run-off from agriculture fields**
 - Aerial seeding to replace vegetation lost to wildfire

46. 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" are called:
- Mitigating
 - Conserving
 - Taking**
 - Volatilizing
47. Which of the following is the greatest threat to populations of migratory North American songbirds?
- Predation by raptors
 - Clearing of tropical forests**
 - Disease from polluted water
 - International trade in pets
48. The Greater Sage-grouse is a bird in Idaho and 10 other western states that is being considered for the Endangered Species list. The major threat to sage-grouse populations in Idaho is/are:
- Wildland fires in sagebrush ecosystems.**
 - Historic and current hunting pressure.
 - Conversion of sagebrush range to alfalfa fields.
 - Unintended poisoning by agricultural chemicals.
49. Recreation on forests and rangelands can be described as extractive or amenity. Which of the following would be an amenity form of recreation?
- Bird watching**
 - Hunting and fishing
 - Panning for gold
 - Collecting native berries.
50. Wilderness is defined as land that is:
- Dominated by large trees and used as wildlife habitat.
 - Not strongly affected by humans and where humans are "visitors".**
 - Rangelands that are not useful for livestock grazing.
 - Forest Service land used only for recreation.
 - Service land used only for recreation.