

Idaho FFA 2007
Environment and Natural Resources

1. The highest rate at which a renewable natural resource can be used without damaging its ability to renew itself is called:
 - A) the recruitment rate
 - B) the replacement rate
 - C) the level of economic viability
 - D) the level of sustained yield

2. Photosynthesis is the process by which solar energy is converted to chemical energy. This chemical energy is:
 - A) in the form of chlorophyll
 - B) found in the bonds of glucose
 - C) given off as carbon dioxide
 - D) used by the plant to capture oxygen

3. 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 waves

4. 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

5. A species is best defined as:
 - A) any individual plant, animal, or microbe
 - B) a group of plants, animals, and microbes in a particular place
 - 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

6. Which of the following could be called an ecosystem:
 - A) The number of wild horses in Wyoming
 - B) The number of 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

7. Of the three major types of forests which has the coldest climate:
 - A) tropical rainforest
 - B) deciduous forest
 - C) coniferous forest

8. 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:
- A) Coral Reefs
 - B) Euphotic Zones
 - C) Benthic Zones
 - D) Estuaries
9. What do humans have in common with rats, pigs and cockroaches?
- A) we are all primary producer
 - B) we are all omnivores
 - C) we are all decomposers
 - D) we are all autotrophes
10. Detritus feeders:
- A) eat dead plants and animals
 - B) get their energy from pre-formed organic molecules
 - C) include decomposers like bacteria and fungi
 - D) are important in nutrient recycling
 - E) all of the above
11. In ecology, succession refers to:
- A) survival of the fittest
 - B) a species or group of species gradually being replaced by another
 - C) a balance of ecological resistance and biotic potential
 - D) predator-prey relationships
12. The most common element (or gas) in the earth atmosphere is:
- A) oxygen
 - B) nitrogen
 - C) argon
 - D) carbon
13. The gradual breakdown of rock into soil particles by natural forces is called:
- A) leaching
 - B) agrading
 - C) weathering
 - D) degradation
 - e) fracturing
14. Humus is (or refers to):
- A) one of the inorganic, mineral constituents of the soil
 - B) all the soil microorganisms
 - 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
 - E) the fine particles of rock
15. Very sandy soils are not good for agriculture because of their poor:
- A) water-holding capacity
 - B) aeration
 - C) workability
 - D) pH

16. A soil conservation practice of planting new crops into the stubble of the previous year's crop and using herbicides rather than tilling to control weeds is called:
- A) contour farming
 - B) strip cropping
 - C) wind breaking
 - D) no-till farming
17. 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:
- A) change in soil pH
 - B) loss of mineral soil particles by erosion
 - C) loss of soluble nutrients by leaching
 - D) loss of soil organic matter
18. The area of land on which all runoff, sediment, and water soluble substances flow to a single surface water outlet (like a river or stream) is called:
- A) recharge zone
 - B) aquifer
 - C) buffer strip
 - D) watershed
19. Swamps, marshes, bogs, sloughs, and potholes would all be examples of:
- A) wetlands
 - B) riparian areas
 - C) lakes
 - D) estuaries
20. Lakes that have few dissolved minerals in water (like phosphorus and potassium) and low biomass productivity are referred to as:
- A) autotrophic
 - B) eutrophic
 - C) oligotrophic
 - D) mesotrophic
21. Rangeland carrying capacity is the:
- A) direction of change in range condition
 - B) number of animals that land can support on a long-term basis without causing land degradation
 - C) number of animals a manager decides to put on the land
 - D) number of calves a cowgirl can carry on her saddle
22. About what proportion of the world's land surface is covered by rangeland?
- A) one tenth (10%)
 - B) one third (30%)
 - C) one half (50%)
 - D) three quarters (75%)

23. "Old-growth" forests are:
- A) forests with lots of spotted owls and flying squirrels
 - B) the mid-successional vegetative state of any forest
 - C) the state of a forest that has the highest logging value
 - D) virgin forests that have never been cut for wood or lumber
24. The major ways in which forests affect the global climate is:
- A) through the effects of photosynthesis and transpiration
 - B) by serving as windbreaks
 - C) by effecting on the phosphorus cycle
 - D) by converting ozone into carbon dioxide
25. The greatest threat to wildlife in the world is:
- A) habitat loss and destruction due to human activities
 - B) toxic pollution in water
 - C) increasing ultra violet radiation due to ozone depletion
 - D) acid rain