

**2011
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. 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. An example of a perpetual resource is:
 - a. Coal for heat an energy
 - b. Lumber and wood for construction
 - c. **Wind energy from wind turbines**
 - d. Meat from livestock production

3. The relatively constant temperature observed large bodies of water occurs because water has a:
 - a. Low melting point
 - b. High viscosity
 - c. High surface tension
 - d. **High specific heat**

4. In the fresh water cycle, the largest amount of available water is found in:
 - a. Soil
 - b. Atmosphere
 - c. **Lakes**
 - d. Rivers

5. Each groundwater source has a unique taste, color, and odor created by dissolved:
 - a. Acids
 - b. **Minerals**
 - c. Bacteria
 - d. Organic exudates

6. Thickened leaves and thick fleshy stems are adaptations to:
 - a. Cold conditions
 - b. Wet conditions
 - c. **Dry conditions**
 - d. Low altitudes

7. An example of a homeothermic organism is:
 - a. A plant
 - b. A snake
 - c. An insect
 - d. **A mammal**

8. Which animal attribute functions to get rid of excess body heat?
 - a. **Large ears**
 - b. Stored body fat
 - c. White feathers
 - d. Large body size

9. Pigs, horses and humans can deal with small temperature increases in the summer by:
 - a. Running
 - b. **Developing nocturnal habits**
 - c. Increasing metabolic rate
 - d. Catabolizing body fat

10. Photosynthesis is the process by which solar energy is converted to chemical energy in plants. 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

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. Shade tolerant plants have _____ that sun tolerant plants.
- a. **thinner leaves**
 - b. smaller leaves
 - c. higher rates of photosynthesis
 - d. higher rates of respiration
13. 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**
14. In a population of organisms, the number of infants or seedlings that reach breeding age is called the _____ rate:
- a. **Replacement**
 - b. Fertility
 - c. Survival
 - d. Reproduction
15. Iron, manganese, molybdenum and iodine are:
- a. Macronutrients
 - b. **Micronutrients**
 - c. Not required by plants
 - d. Not required by animals
16. Plants adapted to soils with high salt content and saline conditions are called:
- a. Eukaryotes
 - b. Homeotherms
 - c. **Halophytes**
 - d. Legumes
17. In undisturbed forest soils:
- a. infiltration rates are negligible
 - b. **infiltration rates are greater than rainfall**
 - c. gully erosion is common
 - d. chemical characteristics include high pH and high fertility
18. Soils that develop from wind blown parent material are called _____ soils.
- a. till
 - b. bedrock
 - c. alluvial
 - d. **loess**
19. The _____ is the zone with the most biological activity in soils.
- a. **A horizon**
 - b. B horizon
 - c. C horizon
 - d. R horizon
20. The maximum accumulation of clay minerals in soil occur in the:
- a. A horizon
 - b. **B horizon**
 - c. C horizon
 - d. R horizon
21. The study of soil is called:
- a. Agronomy
 - b. Ecohydrology
 - c. Biogeology
 - d. **Pedology**

22. The arrangement of soil aggregates or peds in the soil profile is called:
- a. Soil texture
 - b. Soil series
 - c. **Soil structure**
 - d. Soil physics
23. The movement of soluble nutrients out of the root zone by water percolating down through the soil is called:
- a. **Leaching**
 - b. Agrading
 - c. Weathering
 - d. Degradation
24. Which of the following is not a heterotroph?
- a. Mushrooms
 - b. Earthworms
 - c. Voles
 - d. **Mosses**
25. The mantel of rock and soil that wraps the outer layer of the earth is called the:
- a. Hydrosphere
 - b. Biosphere
 - c. **Lithosphere**
 - d. Atmosphere
26. About 98% of the atmosphere is made up of the following two elements or compounds:
- a. Water vapor and oxygen
 - b. Carbon dioxide and argon
 - c. Nitrogen and water vapor
 - d. **Nitrogen and oxygen**
27. Which of the following processes is not capable of converting atmospheric nitrogen (N_2) to ammonia (NH_3) or nitrate (NO_3) which can be used by plants?
- a. **Fungi that decompose organic matter in the soil.**
 - b. Azotobacter that fix atmospheric nitrogen into the soil.
 - c. Leguminous plants that house rhizobium in nodules on their roots.
 - d. Lightening that breaks apart N_2 molecules that reform to create nitrate.
28. The bulk of energy in an ecosystem is found in the:
- a. Decomposers
 - b. **Producers**
 - c. Secondary Consumers
 - d. Tertiary Consumers
29. An ecosystem with a high percentage of biomass above ground is a characteristic of:
- a. **Warm climates**
 - b. Polar climates
 - c. Alpine regions
 - d. Northern latitudes
30. Omnivores are:
- a. Flesh-eating animals that feed in non-herbivore trophic guilds
 - b. Organisms that feed primarily on plant matter
 - c. **An organism that feeds in both carnivore and herbivore trophic guilds**
 - d. Animals that feed primarily on fruits and nuts
31. An animal that eats mostly the new leaves and stems of woody plants are called:
- a. **Browsers**
 - b. Omnivores
 - c. Intermediate feeders
 - d. Ungulates

32. In the field of ecology, a community is best defined as:
- any individual plant, animal, or microbe
 - Populations of plants, animals, and microbes in the same geographical area**
 - a kind of plant, animal, or microbe that can interbreed and produce fertile young
 - a group of plants, animals, and microbes and their abiotic surroundings
33. Ecosystems that are characterized by partially enclosed coastal bodies of water where salty seawater mixes with freshwater from streams and rivers are called:
- Coral Reefs
 - Euphotic Zones
 - Benthic Zones
 - Estuaries**
34. The plant communities of low growing shrubs and grasses that dominate high latitudes and altitudes are:
- Tundra**
 - Savannas
 - Scrublands
 - Deciduous woodlands
35. The place where an organism lives (including biotic and abiotic factors) is called its:
- Niche
 - Habitat**
 - Community
 - Population
36. Biodiversity is best described as the _____ in an ecosystem.
- variety of species and life forms**
 - multitude of connection between abiotic and biotic component
 - number of endangered or threatened species
 - location on the sere of succession
37. Spotted knapweed is an invasive plant that reduces competition from other plants by releasing compounds that are toxic to adjacent plants. These action is called:
- Mutualistic
 - Allelopathic**
 - Parasitic
 - Symbiotic
38. An introduced or exotic species is one that:
- Was brought to North America from another continent.**
 - Is invasive and tends to displace other plants in the community.
 - A plant that is growing where it is not wanted.
 - A plant that must be controlled under the Noxious Weed Law.
39. An ecosystem that depends on frequent fires to maintain itself is the:
- Deciduous forest
 - Grassland**
 - Desert
 - Tundra
40. 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.

41. The major ways in which forests affect the global climate is:
- through the effects of photosynthesis and transpiration**
 - by serving as windbreaks
 - by effecting the phosphorus cycle
 - by converting ozone into carbon dioxide
42. 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
43. In ecology, succession refers to:
- A community gradually being replaced by another**
 - The survival of the fittest
 - A balance of ecological resistance and biotic potential
 - Interactive predator-prey relationships
44. The stable group of plants and animals that is viewed as the endpoint of succession or the potential natural community is termed:
- Seral-Max
 - Climax**
 - Untrammeled
 - Biotic Potential
45. 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
46. Controlling weeds by digging them up with a shovel is what type of weed control?
- Chemical
 - Mechanical**
 - Biological
 - Cultural
47. Pollutants that are broken down by natural processes are called:
- Perpetual
 - Non-degradable
 - Biodegradable**
 - Non-renewable
48. The greatest threat to wildlife in the world is:
- habitat loss and destruction due to human activities**
 - toxic pollution in water
 - increasing ultra violet radiation due to ozone depletion
 - acid rain
49. Hummingbirds, pelicans, burrowing owls, and western bluebirds are all examples of:
- Waterfowl
 - Big game
 - Neotropical migrants**
 - Upland game birds
50. The idea that land managers should conduct activities so that the productive capacity of the land is maintained and available for future generations is called:
- Multiple use
 - Assessment
 - Monitoring
 - Sustainability**