



2023 NATIONAL FFA ENVIRONMENT & NATURAL RESOURCES CAREER DEVELOPMENT EVENT

WRITTEN EXAMINATION 2023

Please mark all answers on the scan sheet.

1. We call all the ecosystems of the Earth as a whole a _____.
 - A. Biosphere
 - B. Community
 - C. Population
 - D. Universe

2. A group of similar organisms that is found in a defined area is known as a _____.
 - A. Community
 - B. Family
 - C. Herd
 - D. Population

3. Which of the following is an abiotic feature of a particular ecosystem?
 - A. Bacteria
 - B. Rodents
 - C. Trees
 - D. Water

4. A branch of science that deals with the complex relationships among living things and their environment is...
 - A. Conservationist
 - B. Ecology
 - C. Environmentalism
 - D. Taxonomy

5. Primary succession occurs when...
 - A. An ecosystem is damaged or partly destroyed
 - B. Organisms live in an area where they did not live before
 - C. Plants displace animals from an environment
 - D. Remnants of a former community still exist
6. The ability of a particular organism to survive more easily in a shared environment than another is an example of ...
 - A. Adaptive superiority
 - B. A competitive advantage
 - C. The competitive exclusion principle
 - D. Secondary succession
7. The ability of an organism to survive changes in an environment is a demonstration of its
 - A. Comfort zone
 - B. Competitive exclusion principle
 - C. Niche
 - D. Range of tolerance
8. Which of the following forms of energy occurs as a result of photosynthesis?
 - A. Chemical
 - B. Electrical
 - C. Kinetic
 - D. Thermal
9. Which is the process by which organic matter (plant or animal tissue) is reduced to organic compounds?
 - A. Decomposition
 - B. Photosynthesis
 - C. Respiration
 - D. Synthesis
10. Herbivores are also considered _____
 - A. Carnivores
 - B. Primary consumers
 - C. Producers
 - D. Secondary consumers

11. Which of the following is a secondary consumer?
 - A. Carnivore
 - B. Food plant
 - C. Herbivore
 - D. Producer
12. Population levels in an ecosystem cannot typically exceed the _____ for a sustained period of time.
 - A. Carnivorous population
 - B. Carrying capacity
 - C. Non-exhaustible resources
 - D. Renewable resources
13. A term describing a resource that is capable of replacing itself through reproduction or new growth is...
 - A. Conservation
 - B. Nonrenewable resource
 - C. Renewable resource
 - D. Recycling
14. The number of a particular species of plant or animal in a given area at a specific point in time is an example of...
 - A. Biologistics
 - B. Carrying capacity
 - C. Multiple use
 - D. Population level
15. Which of the following is not a renewable resource?
 - A. Forest
 - B. Plants
 - C. Soil
 - D. Wildlife
16. What element combines with moisture to form acid rain?
 - A. Carbon
 - B. Hydrogen
 - C. Lead
 - D. Sulfur

17. A product of decaying plant or animal matter is...
- A. Chlorofluorocarbons
 - B. Methane
 - C. Nitrous oxide
 - D. Ozone
18. Air is...
- A. 10 % carbon dioxide
 - B. 21 % nitrogen
 - C. 21% oxygen
 - D. 78% argon
19. Pure water is...
- A. A mixture of gases
 - B. Metallic tasting
 - C. One part hydrogen to two parts oxygen
 - D. Odorless
20. A measurement of the total concentration of ions in water is...
- A. Acidity
 - B. Alkalinity
 - C. Salinity
 - D. Temperature
21. A Secchi disk is used to measure what?
- A. Air pollution
 - B. Slope
 - C. Turbidity of water
 - D. Wind velocity
22. A clinometer is used to measure...
- A. Air pollution
 - B. Slope
 - C. Turbidity of water
 - D. Wind velocity

23. The function of a watershed is to...
- A. Protect potable water from weather
 - B. Protect water from contaminants
 - C. Release a consistent flow of water throughout the year
 - D. Shelters a water pump
24. Nature's natural water treatment like facilities include all but which of the following...
- A. Estuaries
 - B. Golf course ponds
 - C. Marshes
 - D. Swamps
25. When does water lose its oxygen holding capacity?
- A. When an algae bloom is present
 - B. In cooler temperature
 - C. As water warms
 - D. In lower altitudes
26. Groundwater that is unavailable to plant roots is called...
- A. Capillary water
 - B. Free water
 - C. Gravitational water
 - D. Hygroscopic water
27. The process by which water changes from liquid form to a vapor or gas is...
- A. Condensation
 - B. Distillation
 - C. Evaporation
 - D. Precipitation
28. As a medium for plant growth, which of the following is not provided by the soil?
- A. Anchorage
 - B. Energy
 - C. Nutrients
 - D. Water

29. The tendency of soil particles to break apart as erosion occurs is called...
- A. Decomposition
 - B. Erodibility
 - C. Illuviation
 - D. Weathering
30. 40% of soil loss in the United States is due to ...
- A. Crop production
 - B. Forest fires
 - C. Floods
 - D. Wind erosion
31. Which of the following soil parent materials is deposited by wind?
- A. Alluvial deposits
 - B. Loess deposits
 - C. Mineral and rocks
 - D. Organic deposits
32. Which term is not considered to be a physical property of the soil?
- A. Drainage
 - B. Slope
 - C. Soil solution
 - D. Texture
33. A learned behavior that improves the chances for a wild animal to survive is also known as...
- A. Adaptive behavior
 - B. Erratic behavior
 - C. Manipulative behavior
 - D. Nonadaptive behavior
34. When two species of wildlife live together neither helping or harming the other, the relationship is called...
- A. Commensalism
 - B. Competition
 - C. Mutualism
 - D. Parasitism

35. The greatest single cause of extinction is...
- A. An alien species
 - B. Destruction or modification of habitat
 - C. Nonadaptive behavior
 - D. Overharvesting
36. Low biotic potential is defined as...
- A. Failure to adapt well to a changing environment
 - B. High susceptibility to poisons in the environment
 - C. Over production of offspring each year
 - D. Slow reproductive rate
37. Which of the following biomes is the largest?
- A. Desert biome
 - B. Grassland biome
 - C. Marine biome
 - D. Temperate forest biome
38. A water habitat in which water tends to stand for long periods of time is called a _____ habitat.
- A. Lentic
 - B. Lotic
 - C. Murky
 - D. Turbid
39. An organism that reproduces only once in its lifetime is said to be...
- A. Iterparous
 - B. Promiscuous
 - C. Monogamous
 - D. Semelparous
40. Fecundity refers to the
- A. Carrying Capacity
 - B. How fertile a species is
 - C. Mortality of a population
 - D. Semelparous species

41. A group of ecosystems within a region that have similar types of vegetation and similar climatic conditions is
- A. A biome
 - B. A habitat
 - C. A stratum
 - D. A zone
42. What is the biggest component of municipal waste?
- A. Metals
 - B. Paper
 - C. Plastics
 - D. Yard waste
43. All of the following occur during attenuation except...
- A. Adsorption
 - B. Biological removal
 - C. Containment
 - D. Filtration
44. The most important characteristic of containment landfill is...
- A. Maximum degradation of waste materials
 - B. Minimum seepage
 - C. Proximity to population centers
 - D. Soil type
45. Pollution that can be traced back to a specific source is known as...
- A. Carcinogenic
 - B. Mutagenic
 - C. Non-point source pollution
 - D. Point source pollution
46. The pH of a toxic material is related to which of the following terms?
- A. Corrosivity
 - B. Ignitability
 - C. Reactivity
 - D. Toxicity

47. When a waste material gives off fumes, and you inhale or absorb the contaminant through your lungs and skin this is known as
- A. Direct exposure pathway
 - B. Indirect exposure pathway
 - C. Mutagenic effect
 - D. Teratogenic effect
48. What is an organism called that is sensitive to pollution and is used to determine the suitability of a living environment?
- A. Indicator species
 - B. Invasive species
 - C. Limiting factor
 - D. Native species
49. Lines of latitude _____.
- A. Run in a north and south direction
 - B. Are equal in length
 - C. Are known as meridians
 - D. Are known as parallels
50. Which of the following soils has the most water holding capacity?
- A. Soils high in sand content
 - B. Soils that have an even amount of sand and silt
 - C. Soils that have a high clay content
 - D. Soils that have more mineral content