2021 National FFA Environmental and Natural Resources CDE Written Exam

1. What is the area of Earth that supports life called?
2. The atmosphere
3. **The biosphere**
4. The hydrosphere
5. The rhizosphere

1. All the parts of a particular environment form a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_; some parts living and others nonliving.
2. Biosphere
3. **Ecosystem**
4. Habitat
5. Niche
6. Effluent water is described as…
   1. Particulate polluted water.
   2. Water that erodes soil.
   3. **Water that is discharged from factories or farms.**
   4. Water that is a source of point source pollution.
7. The term “biodegradable” refers to materials that can be broken down such as newspapers. “Bio” in this term refers to what?
   1. **Bacteria breaking down these materials**.
   2. Environmental factors breaking down these materials.
   3. Pollution breaking down these materials.
   4. Toxins breaking down these materials.
8. Material that is the result of decomposition of organic matter is…
   1. Agricultural pollution
   2. **Compost**
   3. Liquid
   4. Toxic
9. A type of resource that can be replaced or recreated once they are used.
   1. Exhaustible
   2. Fuel
   3. Nonrenewable
   4. **Renewable**
10. \_\_\_\_\_\_\_\_\_\_\_\_ are living and nonliving things found on Earth that people need.
    1. Fossil fuels
    2. **Natural resources**
    3. Nonrenewable resources
    4. Renewable resources
11. In the hydrologic cycle, evaporation and transpiration would cause which of the following?
    1. Ground water
    2. Oceans
    3. **Precipitation**
    4. Rivers
12. The most abundant element in Earth’s atmosphere
    1. Argon
    2. Iron
    3. **Nitrogen**
    4. Oxygen
13. Acid rain is associated with which of the following?
    1. **Burning of fossil fuels**
    2. Damage to the tropical rain forests
    3. Formation of the Antarctic ozone hole
    4. Release of PCBs into the atmosphere
14. Dissolved Oxygen (DO) is an important water quality measurement. If there is an excess amount of decaying plant material in a body of water will this affect DO levels?
    1. This will raise the levels of DO in the water
    2. **This will lower the levels of DO in the water**
    3. This will have no effect on the levels of DO in the water
    4. This will block sunlight and limit photosynthesis which will increase DO levels.
15. Soil texture describes…
    1. The aeration of the soil
    2. The arrangement of the soil particles into shapes or pieces
    3. The physical condition of the soil
    4. **The proportion of sand, silt and clay in the** **soil**
16. Which of the following statements is true when referring to soil particles?
    1. Clay is the largest particle in soil
    2. **Clay is the smallest particle in soil**
    3. Clay is smaller than sand but larger than silt
    4. Silt is the smallest particle in soil
17. Which of the following soils has the most water holding capacity?
    1. Soils high in sand content
    2. Soils that have an even amount of sand and silt
    3. **Soils that have a high clay content**
    4. Soils that have more mineral content
18. Which of the following would be typical of very little to no slope for a piece of land?
    1. Dries out quickly
    2. Experiences faster runoff
    3. Loses fertile top soil to erosion
    4. **May stay wet longer and limit decay of organic matter**
19. Water quality is less affected by
    1. Chemical runoff
    2. Fish density
    3. **Fish species**
    4. Weather
20. When two species of wildlife live together for the benefit of both, the relationship is called
    1. Commensalism
    2. Competition
    3. **Mutualism**
    4. Predation
21. Which relationship refers to a plant or animal that lives in, on, or with another sharing its food, but not helping or harming it?
    1. **Commensalism**
    2. Competition
    3. Mutualism
    4. Predation
22. Soil pH is generally raised by adding…
    1. Complete fertilizer
    2. **Lime**
    3. Nitrogen
    4. Sulfur
23. In which of the following soil horizons is parent material usually found in?
    1. Horizon A
    2. Horizon B
    3. **Horizon C**
    4. All of the above
24. What is an organism called that is sensitive to pollution and is used to determine the suitability of a living environment?
    1. **Indicator species**
    2. Invasive species
    3. Limiting factor
    4. Native species
25. An overly wet soil is often low in productivity. Which of the following are true in these wet soils?
    1. Fungi and bacteria are present in too great of number to be beneficial
    2. **Little or no air can penetrate the soil**
    3. Organic matter decomposes too quickly to be of a benefit to plants
    4. Tend to have less natural mineral deposits
26. A soil profile is…
    1. **A cross sectional view of soil**
    2. Detailed description of a type of soil
    3. Layers of organic material
    4. The unconsolidated material from which soil develops
27. In the air, what filters out harmful ultraviolet rays from the sun?
    1. The greenhouse phenomena
    2. Naturally occurring hydrocarbons
    3. **The ozone in the air**
    4. Particulates in the air
28. The sulfur in the air combines with oxygen and moisture form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which has been found to damage and kill trees and other plants.
    1. Radioactive dust
    2. Radon
    3. **Sulfuric acid**
    4. Sulfur dioxide
29. The process of bacteria changing dead organisms into ammonia, then to nitrite and finally to nitrates which are useful to plants is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    1. Ammonification
    2. Electrolysis
    3. **Nitrification**
    4. photosynthesis

1. Nitrous Oxide is a troublesome pollutant, occurring from which of the following major sources?
   1. Decaying plant material
   2. Farming residue
   3. **Gasoline engines**
   4. Refrigeration units
2. What is the ozone damaging substance?
   1. Carbon dioxide
   2. **Chlorofluorocarbons**
   3. Methane
   4. Nitrous Oxide
3. What is the poisonous gas we cannot remove from auto exhaust?
   1. Carbon dioxide
   2. **Carbon monoxide**
   3. Hydrocarbons
   4. Nitrous oxides
4. What is the over accumulation of pollutants at successive levels in the food chain called?
   1. Bio adaptability
   2. **Biomagnification**
   3. Eutrophication
   4. Point source pollution
5. If producers in a food web were removed, which of the following changes would most likely occur?
6. Consumers of the web would begin making energy for the food web
7. **the entire food web would collapse over time**
8. the food web would depend on the decomposers for energy
9. the populations of the remaining organisms in the food web would increase
10. A food web is different from a food chain because…   
    a. animals eat plants in a food web and they do not in a food chain

**b. a food web is a combination of several food chains**   
c. decomposers eat animals in a food chain but not in a food web

d. a food web and a food chain are the same thing

1. Which has the lowest tendency to form clods, the least moisture holding

capacity and the least fertility?

a.   clay

b.   loam

**c.  sand**

d.  silt

1. The amount of dissolved oxygen in warm water is \_\_\_\_\_\_\_\_\_\_\_\_ than it is in cold water.
   1. Better
   2. Higher
   3. **Lower**
   4. Temperature has no effect on dissolved oxygen
2. Lines of longitude \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
   1. Run in an east/west direction.
   2. Are unequal in length.
   3. **Are known as meridians.**
   4. Are known as parallels.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ data includes information pertaining to satellite orbital corrections
   1. **Ephemeris**
   2. Ionosphere
   3. Multipath
   4. Troposphere
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ errors are known to occur from signal reflection from various nearby objects.
   1. Ephemeris
   2. Ionosphere
   3. **Multipath**
   4. Troposphere
5. GPS is a constellation of approximately \_\_\_\_\_\_\_\_ satellites.
   1. 4
   2. 5
   3. 12
   4. **24**
6. Prolonged presence of water, hydric soils and presence of hydrophytic plants are characteristics of …
   1. Grasslands
   2. Harwood bottomlands
   3. Tundra
   4. **Wetlands**
7. Oxygen can be added to a pond by doing which of the following?
   1. **Aeration**
   2. Adding fertilizer
   3. Adding more fish
   4. Dredging
8. Which of the following atmospheric zones is farthest from the surface of the earth?
   1. **Ionosphere**
   2. Mesosphere
   3. Stratosphere
   4. Troposphere
9. Which of the following absorbs almost all the ultra-violet radiation that reaches the earth?
   1. Atmosphere
   2. Greenhouse gases
   3. **Stratospheric ozone**
   4. Tropospheric ozone
10. Which is NOT true about non-renewable resources?
    1. They are finite and non-sustainable
    2. Their exploitation and use will eventually lead to their exhaustion
    3. **They cannot be stored for future use**
    4. These resources take millions of years to form
11. What is a form of heat energy, which originates deep in the earth’s molten interior?
    1. Biomass
    2. **Geothermal**
    3. Hydropower
    4. Solar
12. Of the following sources, which supplies the most commercial energy in the world today?
    1. Hydroelectric
    2. **Oil**
    3. Nuclear
    4. Solar
13. Which of the following is an environmental problem associated with abandoned coal mines?
    1. **Acid drainage due to leaching of spoil heaps by rainwater**
    2. Air pollution caused by smog from ozone formation
    3. Released nutrients that cause eutrophication into streams
    4. Thermal pollution of streams in the area
14. Particulates released into the air from industrial processes affecting air quality, can be removed by the process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
    1. Chemical oxidation
    2. Filtering
    3. **Scrubbing**
    4. Titration
15. Which of the following is **not** an area of concentration to prevent contamination of groundwater by crop pesticides?
    1. Conservation tillage practices
    2. Improved computer models
    3. Improved pesticide application technology
    4. **Overgrazing areas of concern**
16. Which of the following is a type of groundwater that is available to plant roots?
    1. **Capillary water**
    2. Free water
    3. Gravitational water
    4. Hygroscopic water
17. The accumulation of salts in water occurs most often when…
    1. Water collects in a drainage ditch
    2. **Water is lost through evaporation**
    3. Water runs across agricultural land
    4. Water settles in a pond