National FFA Organization

Environmental and Natural Resources Career/Leadership Development Event

GENERAL KNOWLEDGE EXAM KEY—2019

1. What is the branch of science that deals with the complex relationships between living things and their environment?
   A. Biology
   B. Ecology
   C. Ichthyology
   D. Geology

2. How does energy move through ecosystems on earth?
   A. From the sun to consumers and producers
   B. From the sun to consumers to producers then back to consumers
   C. From sun to producers to consumers to decomposers
   D. From the sun to decomposers to producers to consumers

3. Which of the following is a renewable or inexhaustible resource?
   A. Atmosphere
   B. Minerals
   C. Natural gas
   D. Petroleum products

4. Which of the following is an exhaustible resource?
   A. The atmosphere
   B. Water being replenished by the hydrologic system
   C. Solar energy
   D. Forest

5. Ecosystems are.....
   A. Complex relationships among living things and their environment.
   B. Complex relationships among nonliving organisms.
   C. Natural resources.
   D. Complex networks of living and nonliving organisms in which each organism may be affected by the others.

6. Natural resources.....
   A. Are only important to plants and animals.
   B. Are not important to humans.
   C. Are important to humans because they rely upon them for everyday life.
   D. Are important to the United States' international trade policy.

7. What is the process by which plant leaves emit water into the atmosphere?
   A. Condensation
   B. Precipitation
   C. Respiration
   D. Transpiration

8. Carbon is returned to the environment by decomposers feeding on dead matter, waste and subsequently releasing carbon dioxide through the process of_____.
   A. Condensation
   B. Evaporation
   C. Respiration
   D. Transpiration

9. Approximately 78% of the earth's atmosphere is made up of _____ .

   A. Carbon dioxide

   B. Nitrogen

   C. Oxygen

   D. Water

10. The primary source of food energy in a food chain comes from _____.

   A. Consumers

   B. Decomposers

   C. Producers

   D. Water

11. Nitrates are _____.

   A. Common gases found in the atmosphere

   B. Formed from the decomposing of dead organisms and animal wastes

   C. Man-made fertilizers utilized in the production of the food we eat

   D. Not useful to plants until converted to nitrites

12. Plants that undergo the process of nitrogen-fixing by absorbing nitrogen gas and converting it to nitrates are called _____.

   A. Cool season grasses

   B. Legumes

   C. Nitrators

   D. Warm season grasses

13. Abiotic factors influencing ecosystems include…

   A. Food chains and the loss of heat at each step

   B. Producers, consumers and decomposers

   C. The living parts of an ecosystem

   D. Water, soil, air, climate and space

14. The gradual transformation of a pond into a bottomland forest over the passage of years is an example of…

    A. Community rather than an ecosystem

    B. Ecological succession

    C. Ecological transformation

    D. Limiting factors

15. Consumers in an ecosystem

    A. Are the beginning of any food chain

    B. Cannot make their own food

    C. Manufacture their own food

    D. Outnumber the producers in the world

16. Close interaction between organisms of different species over an extended period of time in which one individual benefits while the other individual neither benefits nor is harmed by the relationship, is known as:

    A. Competition

    B. Commensalism

    C. Mutualism

    D. Parasitism

17. The build up of plant nutrients in a body of water, which leads to excessive algae growth, is called _____.

    A. Competition

    B. Eutrophication

    C. Nitrification

    D. Succession

18. What soil particle holds water the tightest and has the least permeability?

A. Clay

B. Gravel

C. Sand

D. Silt

19. The best way to determine soil texture in the field is by …

A. Kicking the soil with you shoe and seeing how it crumbles

B. Looking at the color

C. Using the "Ribbon Test"

D. Weighing the soil sampled

20. The process of bacteria changing dead organisms into ammonia, then to nitrites and finally to nitrates useful to plants is called _____.

A. Ammonification

B. Electrolysis

C. Eutrophication

D. Nitrification

21. What are the four textural classes in the textural triangle?

A. Gravel, sand, silt and clay

B. Sand, silt, clay and topsoil

C. Sand, silt, clay and loam

D. Sand, silt, clay and platy

22. Which soil type tends to be very low in the ability to hold nutrients, however they are very high in permeability?

A. Clay soils

B. Loam soils

C. Sandy soils

D. Silty soils

23. An example of geological soil erosion is.....
    A. A shortage in food due to poor soil fertility
    B. Glaciers forming rivers, leveling mountains, filling valleys, forming lakes and depositing soil
    C. Loss of plants due to lack of water
    D. Water washing off of a field because soil was plowed on a slope

24. Which of the following is not a process of soil degradation?
    A. Nitrogen fixation
    B. Salinization
    C. Soil erosion
    D. Soil pollution

25. Which of the following is not a benefit of soil organic matter?
    A. Improves the permeability of soil
    B. Improves soil tilth
    C. Improves water infiltration into soil
    D. Kills all microorganisms in the soil

26. Which of the following items are not considered to be a factor, that influences the toxicity of chemicals?
    A. Absorbed dose
    B. Frequency of exposure
    C. Length of exposure
    D. Weather conditions

27. Which of the following items is not found on a chemical label?
    A. Directions
    B. Ingredients
    C. Precautions
    D. Safety tests

28. Which sphere contains all of the plan and animal life on the earth's surface?

A. Atmosphere

B. Biosphere

C. Hydrosphere

D. Lithosphere

29. The process that changes water from a gas to a liquid is called _____.

A. Condensation

B. Evaporation

C. Respiration

D. Transpiration

30. Air pollutant that adheres to precipitation and falls to the earth is called_____.

A. Acid rain

B. Bleaching

C. Leachate

D. Leaching

31. Pollution caused by discharging heated water into rivers and streams is created by _____.

A. Inorganic pollution

B. Organic waste

C. Radioactive materials

D. Thermal pollution

32. The function of a watershed is to…
    A. Protect potable water tanks from the weather
    B. Protect water from contaminants
    C. Shelter a water pump
    D. Release a consistent flow of water throughout the year

33. A pH of 7 is considered…
    A. Acidic
    B. Basic
    C. Neutral
    D. 7ppm

34. A measurement of the total concentration of all dissolved ions in water is…
    A. Acidity
    B. Alkalinity
    C. Salinity
    D. Temperature

35. Groundwater that is unavailable for plant root absorption is called…
    A. Capillary water
    B. Free water
    C. Gravitational water
    D. Hygroscopic water

36. Which of the following terms is not considered to be a physical property of soil?
    A. Drainage
    B. Slope
    C. Soil solution
    D. Texture

37. Low biotic potential is defined as…

A. A high susceptibility to poisons in the environment

B. A slow reproductive rate

C. The failure to adapt well to a changing environment

D. The production of large numbers of offspring each year

38. A wildlife population that is forced to feed, water or travel too great a distance from its escape cover is likely to encounter a high rate of…

A. Growth

B. Mortality

C. Reproduction

D. Survival

39. A group of ecosystems within a region that have similar types of vegetation and similar climate conditions is…

A. A biome

B. An estuary

C. A habitat

D. A stratum

40. Water that is clouded with suspended particles of silt is described as…

A. Clean

B. Salty

C. Stratified

D. Turbid

41. The world's largest biome is the _____ biome.

A. Coniferous forest

B. Freshwater

C. Marine

D. Temperate forest

42. The biggest component of municipal waste is…

A. Paper

B. Plastics

C. Metals

D. Yard waste

43. Which of the following is not a characteristic that defines hazardous waste?

A. Biodegradable

B. Corrosive

C. Reactive

D. Toxic

44. Which of the following is not a renewable resource?

A. Forest

B. Plants

C. Soil

D. Wildlife

45. The practice of using natural resources while protecting against harm and waste is called…

A. Biotechnology

B. Conservation

C. Preservation

D. Resource renewal

46. The practice of maintaining an environment and the resources within it in their natural state simply because we value them is called…

A. Biotechnology

B. Conservation

C. Preservation

D. Resource renewal

47. The number of a particular species of plants or animals in a given area at a specific point in time is an example of

A. Biologistics

B. Carrying capacity

C. Food Chain capacity

D. Population level

48. Primary succession occurs when…

A. An ecosystem is damaged or partly destroyed

B. Plants displace animals from an environment

C. Organisms live in an area where they did not live before

D. Remnant of former community still exist

49. The ability of an organism to survive environmental fluctuations from the norm in an environment is a demonstration of its

A. Comfort zone

B. Competitive exclusion principle

C. Niche

D. Range of tolerance

50. The most simple arrangement of organisms in an environment in a ranking order that connects all of the producers to the primary and secondary consumers is called a…

A. Food chain

B. Food network

C. Food pyramid

D. Food web