

Name _____

Period _____

AP Environmental Science Practice Exam

Use the following answers for questions 1 – 5 (can be used more than once or not at all)

- a) Inertia
- b) Primary succession
- c) Secondary succession
- d) Tolerance
- e) Disturbance

1. When late succession plants are not disturbed by early succession plants
2. When succession starts from an area where humans once farmed
3. When a community starts from bare rock
4. The tendency of an ecosystem to maintain its overall structure
5. An event that will instigate the process of succession

Use the following answers for questions 6 – 10 (can be used more than once or not at all)

- a) indicator species
- b) alien species
- c) native species
- d) keystone species
- e) specialist species

6. Species with a narrow niche, which can only live in a certain habitat
7. A non-native species
8. Species whose decline indicates damage to a habitat
9. Species that play a pivotal role in the habitat
10. Species that normally live and thrive in a habitat

Use the following answers for questions 11 – 15 (can be used more than once or not at all)

- a) Parasitism
- b) Mutualism
- c) Competition
- d) Predation
- e) Commensalism

11. Cheetahs and antelope
12. Mycorrhizae
13. Humans and Tapeworm
14. A Hawk eats a mouse
15. Two birds fight over a nest

Use the following answers for questions 16 – 20 (can be used more than once or not at all)

- a) National Forests
- b) National Resource Lands
- c) National Wildlife Refuges
- d) National Parks
- e) National Wilderness Preservation Areas

- 16. These lands are reserved for recreation and fishing, but not for commercial use
- 17. These multi-use lands can be logged and fished
- 18. These lands provide a domestic energy and mineral supply
- 19. Motor vehicles are banned from these hunting and fishing areas
- 20. These habitats provide protected breeding areas for many animals

Use the following answers for questions 21 – 25 (can be used more than once or not at all)

- a) Chernobyl, Ukraine
- b) Love Canal, New York
- c) Bhopal, India
- d) London, England
- e) Chesapeake Bay, Maryland

- 21. When this chemical plant exploded, thousands of people died from inhaling pesticides
- 22. Chemicals leaking out of a dump caused leukemia in local children
- 23. The burning of coal produced smog so thick that many people died of respiration
- 24. This estuary is eutrophied, and many plant and animal species are unable to live there
- 25. An explosion in a nuclear reactor spread radioactive materials over thousands of hectares in this region

Use the following answers for questions 26 – 30 (can be used more than once or not at all)

- a) Solar energy
- b) Hydrogen fuel cells
- c) Tidal energy
- d) Geothermal energy
- e) Wind energy

- 26. This source can harm migratory birds
- 27. Water and electricity are products of this source
- 28. This source of energy relies on water flowing in and out of bays
- 29. This source converts radiant energy into heat or electricity
- 30. This source utilizes heat or steam from deep underground

31. Which of the following is not a part of the hydrosphere?
a) lakes b) watershed c) bedrock d) clouds
32. What do you call the process where water vapor and carbon dioxide absorb infrared heat radiated by the Earth?
a) ozone depletion b) greenhouse effect c) convection d) biomagnification
33. What are the 2 most important factors in determining climate?
a) temp. and wind b) temp. and precip. c) wind and precip. d) wind and evap.
34. What is the seismically active area surrounding the Pacific Ocean called?
a) ring of fire b) estuary c) hot spot d) intercostal region
35. In which region of the atmosphere does aurora borealis occur?
a) Troposphere b) Thermosphere c) Mesosphere d) Stratosphere
36. About how much of the Earth is covered in water?
a) 10% b) 73% c) 50% d) 90%
37. Where in ocean is the benthic zone?
a) top b) bottom c) middle d) no such thing as benthic zone
38. What is an unconfined aquifer?
a) where pollutants collect b) where water flows freely c) where water cannot move
39. What organism is a producer?
a) an ant b) a person c) photosynthetic algae d) a fish
40. An earthquake that takes place under the ocean floor creates a wave of water called a
a) tidal wave b) seismic wave c) Big Kahuna d) tsunami
41. Which choice gives the correct sequence from oldest to most recent
a) Cenozoic – Mesozoic – Paleozoic – Precambrian
b) Precambrian – Paleozoic – Mesozoic – Cenozoic
c) Paleozoic – Precambrian – Cenozoic – Mesozoic
42. Ozone in the troposphere can cause all of the following EXCEPT
a) eye irritation b) lung cancer c) bronchitis d) headaches
43. In which direction does the coriolis effect deflect winds near the Equator?
a) North b) South c) East d) West
44. In which layer of the atmosphere would you find beneficial ozone?
a) troposphere b) mesosphere c) thermosphere d) stratosphere
45. From which direction do “Easterly” winds come from?
a) Easter Island b) the West c) the East d) the North
46. A radioactive sample has a half-life of 100 years. It has an activity of 4 curies. How many years will it take for the material to have an activity of 2 curies?
a) 20 years b) 30 years c) 40 years d) 50 years
47. How much energy (in kWh – kilowatt hours), is used by a 100-watt computer running for 10 hours?
a) 500 kWh b) 100 kWh c) 0.5 kWh d) 1 kWh
48. A coal-burning power plant uses 5,000 tons of coal per day. Each pound of coal produces 5,000 BTUs of electrical energy. How many BTUs are produced each day by the plant?
a) 4.5×10^{10} b) 5×10^{10} c) 5×10^{11} d) 10×10^{10}
49. Hybrid cars are powered by what type of motor?
a) Gasoline b) Natural Gas c) Solar d) Gas and Electric

50. A light bulb has an efficiency rating of 3 percent. For every 1.0 joule of energy the bulb uses, some of the energy powers the light and the rest is given off as heat. How much useful energy is produced?
a) 1.03 Joules b) 97 Joules c) 0.03 Joules d) 3 Joules
51. Which best defines a fuel's net energy yield
a) how much of the fuel is left
b) the time it takes to extract and transport a resource
c) a comparison between the cost of extraction and transport of a resource and the useful energy generated by said resource
d) a comparison between the pollution generated by a resource and the useful energy generated by said resource
52. Methane and ethanol are examples of biogases that are produced by which process?
a) distillation of oil
b) Pressurization of gas
c) anaerobic digestion of biomass
d) reaction of coal and limestone
53. Which of the following are ways to increase energy efficiency?
a) using low flow shower heads
b) insulating your home
c) using fluorescent light bulbs instead of incandescent light bulbs
d) all of the above
54. Which produces the least CO₂ while generating electricity?
a) fossil fuels b) wood c) wind d) coal
55. Photovoltaic cells produce electricity by
a) using mirrors to collect heat
b) using silicon solar panels to create a flow of electrons
c) warming air spinning a turbine
d) burning fossil fuels
56. A vampire appliance refers to appliances that
a) generate more power than they consume
b) use energy even when they are turned off but plugged in
c) have an Energy Star rating
d) turn themselves on at night
57. All non-renewable resource power plants use heat to
a) make more hot air
b) create magnetic fields that make electricity
c) split hydrogen and oxygen atoms
d) produce steam to turn electrical generators
58. The long-term storage of phosphorus and sulfur is in which of the following forms?
a) Bacteria b) Rocks c) Water d) Atmosphere
59. The movement of the sections of the Earth's lithosphere is known as
a) mass depletion b) plate tectonics c) migration d) emigration
60. Biodiversity is a direct result of which of the following?
a) Deforestation b) Sanitization c) Evolution d) Erosion

61. The phrase that best defines population density is
- the number of individuals in a geographic area
 - the rate at which a population increases
 - the maximum number of individuals a habitat can sustain
 - the time it takes for a population to increase to carrying capacity
62. The form of nitrogen that plants use directly is
- nitrates
 - nitrites
 - guano
 - N₂ gas
63. The addition of oxygen to early earth's atmosphere most likely occurred through the process of
- outgassing
 - photosynthesis
 - respiration
 - meteorite impacts
64. In sea water, carbon is mostly found in the form of
- phosphoric acid
 - bicarbonate ions
 - methane
 - glucose
65. Which of the following best describes changes in the genetic composition of a population over many generations?
- Evolution
 - Natural selection
 - Mutation
 - Biomagnification
66. High infant mortality rates are likely to occur in countries that have
- a strong stable economy
 - high levels of education for adults
 - high levels of infectious diseases
 - safe drinking water
67. Large herds of grazing mammals are most likely to be located in a
- desert
 - rain forest
 - estuary
 - grasslands
68. Which of the following best defines the phrase "infant mortality rate"?
- how many children live in each square hectare
 - the number of births in a population
 - the number of infant deaths per 1,000 people
 - the difference between the birth rate and the death rate in a population
69. The release of chemicals from underground storage tanks is most likely to pollute which of the following?
- a landfill
 - the atmosphere
 - the ecotone
 - aquifers
 - the hydrosphere
70. The United States Congress recently failed to ratify which of the following international agreements that is designed to control the release of carbon dioxide?
- CITES agreement
 - Kyoto Protocol
 - Montreal Protocol
 - Clean Air Act
 - RCRA
71. Which of the following is the most sustainable way to ensure sufficient energy for the future?
- find more fossil fuels
 - develop more effective solar power generators
 - build more nuclear reactors
 - reduce waste and inefficiency in electricity use
 - increase the amount of electricity generated using natural gas
72. Which of the following best describes the goals of the CAFE standards?
- reduce pollution by coal fired power plants
 - increase habitat diversity in certain areas
 - improve the quality of air around cities
 - protect certain endangered species
 - improve the fuel efficiency of automobiles in the United States

73. Which of the following best describes the use of DDT?
- a) it supplies needed nitrogen to plants
 - b) it kills weeds and unwanted plants
 - c) it decreases the amount of pollution from car exhaust
 - d) it is a chemical involved in photosynthesis
 - e) it is an insecticide
74. Riparian zones are important parts of lands because they are
- a) the area where most cattle feed when they graze
 - b) an area of diverse habitats along the banks of rivers
 - c) important buffers against wind
 - d) areas where varying amounts of light cause different layers of plant growth
 - e) the origins of rivers
75. The one area that does NOT store a lot of phosphorous is
- a) rocks
 - b) water
 - c) atmosphere
 - d) living organisms
 - e) guano (bird poop)
76. Which of the following is a disadvantage of fish farming?
- a) it can produce large volumes of fish for food
 - b) it can allow for genetic engineering, which leads to bigger yields
 - c) it is very profitable
 - d) it can lead to large die-offs due to disease
 - e) it can reduce the pressure to harvest wild species
77. Which of the following philosophies would be advocated by someone with the “environmental wisdom” point of view?
- a) as the planet's dominant species, we are most important
 - b) all economic growth is good
 - c) society can use resources at an uncontrolled pace
 - d) we will do best when humans manage the planet
 - e) all species are important and we are not in charge
78. Which of the following best describes the effects of a thermal inversion?
- a) cold ocean water moves to the surface and warm water sinks
 - b) warm, polluted air rises and mixes with cool upper air, and pollutants escape
 - c) warm river water cools when it enters the ocean
 - d) polluted air at the surface cannot rise because it is blocked by warm air above it
 - e) cool air descends onto a city and lowers nighttime temperatures
79. Shifting taxes to tax pollution and waste rather than taxing the cost of products will allow people to
- a) maximize profit
 - b) increase the tax base in a city
 - c) hold industry more accountable for pollution
 - d) shift to a pattern of more sustainable development
 - e) keep the cost of collecting taxes down

80. Which of the following molecules is most damaging to stratospheric ozone?
a) H₂O b) CO₂ c) CFCs d) N₂O e) SO₂
81. Which of the following series of numbers demonstrates exponential growth?
a) 200, 199, 198, 197, 196... b) 1, 3, 5, 7, 9... c) 2, 4, 8, 16, 32
d) 1, 3, 9, 27, 81... e) 2, 4, 6, 8, 10...
82. Samples of atmospheric gases from past eras can most easily be obtained from which of the following sources?
a) methane gas trapped in oil reserves
b) different types of sedimentary rock
c) gases trapped in polar ice caps
d) tree ring measurements
e) mud samples from eutrophic lakes
83. Acid deposition on soil kills beneficial decomposers: which of the following cycles would be most affected by the loss of decomposers?
a) sulfur cycling
b) phosphorus cycling
c) hydrologic cycling
d) nitrogen cycling
e) temperature cycling
84. Which of the following is a trace element necessary for plant growth?
a) Carbon b) nitrogen c) phosphorus d) magnesium e) potassium
85. Concerns that people of color and poor people are unevenly exposed to environmental pollution are most likely to be addressed by people who believe in the
a) earth stewardship view
b) planetary manager view
c) ecofeminist point of view
d) the environmental justice movement
e) sustainability point of view
86. Which of the following best illustrates the process of evolution?
a) a parasite population becomes resistant to a drug
b) rabbits can have brown fur in summer and white fur in winter
c) frogs burrow deep into the mud during winter
d) a baby is born and has a different color hair than its parents
e) a squid changes color to hide from predators
87. Compounds such as water, can exist as a liquid, solid or gas. Changes between states of a substance are known as
a) phase changes
b) chemical changes
c) compound changes
d) nuclear reactions
e) aerobic respiration

88. The energy necessary to produce ozone comes from which of the following?
a) oxygen b) sunlight c) radioactive decay d) magma e) wind
89. Which of the following chemicals can cause lung irritation in the troposphere but is very helpful to humans in the stratosphere?
a) O₂ b) O₃ c) CFCs d) H₂SO₄ e) DDT
90. Which of the following best describes the differences between a primary pollutant and a secondary pollutant?
a) primary pollutants rise up the smoke stack before secondary pollutants
b) primary pollutants are formed from secondary pollutants interacting in water
c) secondary pollutants are formed from primary pollutants interacting in the atmosphere
d) secondary pollutants are made by cars, while secondary pollutants are made by burning wood
e) secondary pollutants are directly created by the burning of coal and primary pollutants from the burning of oil
91. An appliance operates at 120 volts and 10 amps for 1 hour. How many watt-hours does it use in that hour?
a) 1.2 watt-hours b) 12 watt-hours c) 100 watt-hours d) 110 watt-hours e) 1200 watt-hours
92. Coal, oil, and natural gas were all formed as a result of
a) the decay of organic matter
b) the movement of magma in volcanoes
c) sedimentary rock turning into metamorphic rock
d) the radioactive decay occurring inside Earth
e) the motion of the Earth's core
93. All of the following are negative impacts of food production EXCEPT
a) increased erosion
b) air pollution from fossil fuels
c) bioaccumulation of pesticides
d) lower death rates
e) loss of biodiversity
94. Soils found in mid-latitude grasslands would be most accurately described as having
a) a high acid content with little organic matter
b) a deep layer of humus and decayed plant material
c) a layer of permafrost right below the O-horizon
d) a high content of iron oxides and very little moisture
e) a small amount of nutrients but an abundant decomposer food web
95. All of the following are useful methods for reducing domestic water use EXCEPT
a) using low-flow shower heads
b) using low-flush volume toilets
c) turning off water while brushing your teeth
d) lowering temperature of the water heater