

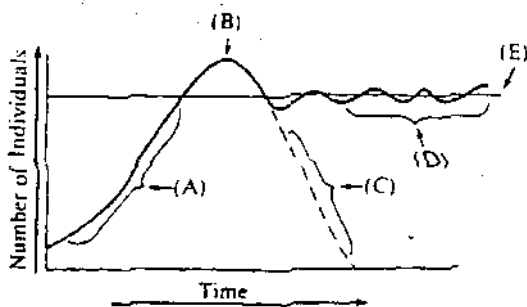
SAMPLE AP ENVIRONMENTAL EXAM

1. The greenhouse effect refers to:  
( a ) a warming of the earth's climate  
( b ) the removal of air pollutants by passing the air through greenhouses  
(c) The increased food production through the introduction of new varieties of plants  
(d) the growth of crops in greenhouses using hydroponics  
(e) the principle on which a new solar heating device is based.
2. What test is probably the best single indicator of water quality?  
(a) alkalinity (b) hardness (c) D.O. (d) pH (e) turbidity
3. Biomagnification refers to:  
( a ) the increase in concentration of a pollutant as it moves up the food chain  
(b) certain traits becoming more pronounced through natural or artificial selection  
(c) growth in size of individuals when given optimum nutrition  
(d) increase in populations when environmental resistance is low  
(e) two or more factors interacting together causing a much greater effect.
4. The concentration in the environment of a toxic substance that kills 50 % of a group of organisms is known as:  
(a) the LC 50 (b) the LD 50 (c) its half-life (d) the TC 50 (e) mortality ratio
5. The burning of municipal solid waste to reduce its volume, reclaim some valuable substances and in some communities to produce steam is referred to as:  
(a) recycling (d) incineration  
(b) biological breakdown (e) hazardous waste disposal.  
(c) sanitary landfill
6. All of the following laws regulate discharge/disposal of hazardous material into waterways or air EXCEPT  
(a) "Superfund" (d) The Safe Drinking Water Act  
(b) The Clean Water Act  
(c) The Clean Air Act
7. An example of potential energy:  
(a) electricity flowing through a wire (d) a leaf falling from a tree  
(b) the chemical energy in a candy bar (e) a perpetual motion machine.  
(c) a bullet fired at high velocity
8. Most of the earth' water supply is located in the oceans and:  
(a)glaciers and ice caps (b) aquifers (c) lakes (d) rivers (e) estuaries.
9. Ecology is best defined as the study of :  
(a) plants and animals (d) the environment  
(b) interrelationship among plants, animals, and the environment (e) environmental factors that affect humans.  
(c) economics
10. Plutonium-239 has a half life of 24,000 years. How much will remain of a one gram portion after it undergoes 3 half lives? (a) 1 gram (b) 0.5 grams (c) 0.25 grams (d) 0.125grams (e) 0.062 grams.
11. The three major BIOTIC components of ecosystem structure are:  
(a) producers, consumers, and carnivores (d) consumers, detritus feeders, and decomposers  
(b) producers, consumers, and decomposers (e) temperature, moisture, and light.  
(c) plants, animals, and climate
12. The process that producers perform that is not performed by other organisms in the ecosystem is  
(a) reproduction (b) respiration (c) photosynthesis (d) metabolism (e) glycolysis.
13. Which of the following is not a major component of the hydrologic cycle ?  
( a ) transpiration (b) erosion (c) precipitation (d) runoff (e) evaporation.

14. A relationship between two organisms in which both benefit is known as:  
 (a) not found in nature      (b) mutualism      (c) parasitism      (d) symmetry      (e) synthesis
15. All of the conditions under which an organism can survive are its:  
 (a) optimum      (d) range of tolerance  
 (b) optimal range      (e) ecological range.  
 (c) limit of tolerance
16. The atomic number of an element is the number of :  
 (a) atoms in a molecule      (d) electrons in the atom  
 (b) protons in the atom      (e) neutrons in the atoms  
 (c) nuclei in a molecule
17. On a straight line from Washington D. C. to San Francisco, one finds natural ecosystems consisting of deserts, grasslands, and forests. This difference is primarily the result of different :  
 (a) amount of rainfall      (b) temperatures      (c) amounts of light      (d) nutrients      (e) topography.
18. Leaching is a term that refers to:  
 (a) infiltration      (d) water-holding capacity  
 (b) aeration      (e) desertification.  
 (c) nutrients or other chemicals being removed from the soil by water percolating through the soil
19. Which of the following statements regarding parasites is FALSE?  
 (a) a parasite may be a plant, animal, or microbe  
 (b) plants, herbivores, and carnivores may all be infected with parasites  
 (c) the organism a parasite feeds on is its prey  
 (d) a parasite generally harms, but does not kill the organism it feeds on  
 (e) a parasite feeds on another organism over an extended period of time.
20. "Fixing nitrogen" refers to:  
 (a) converting it to chemical forms that plants can utilize      (d) animals releasing nitrogen in their urine  
 (b) repairing broken molecules      (e) applying fertilizer  
 (c) releasing nitrogen to the air
21. Denitrification would occur most likely in which of the following communities?  
 (a) a mountain forest      (b) a cornfield      (c) a desert      (d) a marsh or bog      (e) a deciduous forest.
22. The ability of a species to increase its population is referred to as its  
 (a) biotic potential      (d) biome potential  
 (b) fertility      (e) recruitment potential  
 (c) generative capacity
23. All the members of a population that do or can interbreed to produce viable young are defined as:  
 (a) an ecosystem      (b) a species      (c) a population      (d) biota      (e) a biome.
24. The main distinction between topsoil and underlying subsoil is that topsoil:  
 (a) is on top      (d) has a higher humus content  
 (b) has a higher clay content      (e) has fewer stones  
 (c) is more sandy
25. Carrying capacity refers to:  
 (a) reproductive rate      (d) the proportion of males to females  
 (b) interaction of natality and mortality      (e) litter size  
 (c) the maximum size of population the environment can support
26. Which of the following is an example of a density-independent mortality factor?  
 (a) a hurricane      (d) predation  
 (b) an infestation of a foreign parasite      (e) lack of food  
 (c) disease

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28. An age structure histogram of the age and sex composition of a human population with roughly parallel sides to the graph, predicts a population that will :  
 (a) grow slowly (d) exhibit moderate growth  
 (b) not increase (e) decrease rapidly  
 (c) grow rapidly
29. The ratio of people over 65 and under 15 to the rest of the population's age structure is the:  
 (a) reproductive ratio (b) fertility ratio (c) economic ratio (d) dependency ratio (e) diversity ratio.
30. All of the following are true concerning DDT EXCEPT  
 (a) DDT saved millions of lives by controlling disease-carrying insects and mites  
 (b) from the beginning, scientists recognized the environmental problems that DDT would cause  
 (c) Paul Muller was awarded a Nobel prize for his discovery of DDT  
 (d) DDT enables inexpensive control of innumerable insect pests  
 (e) DDT enabled a great increase in production of numerous crops.
31. Nutrients in the soil being carried away by water draining through the soil is a process known as:  
 (a) salinization (b) leaching (c) percolation (d) desertification (e) acidification
32. Living organisms require six elements in relatively large quantities:  
 (a) carbon, hydrogen, oxygen calcium, nitrogen, iron (d) hydrogen, carbon, oxygen, sulfur, iron, nitrogen  
 (b) carbon, hydrogen, oxygen, nitrogen, phosphorus, sulfur (e) carbon, hydrogen, oxygen, potassium, iron, nitrogen  
 (c) oxygen, nitrogen, hydrogen, carbon, potassium, calcium
33. Humus is ( or refers to):  
 (a) one of the inorganic mineral constituents of the soil  
 (b) all of the soil microorganisms  
 (c) finely divided bits of leaves, twigs, and other litter  
 (d) a residue of organic matter that remains after most of the rotting and decomposition detritus has occurred  
 (e) the fine particles from rock weathering
34. Primary succession can only occur in one of the following sites. Which one ?  
 (a) Abandoned farms choked with weeds (d) Hardened lava from a volcano  
 (b) Land that was once a tropical forest subjected to heavy rains (e) sand dunes after a severe hurricane  
 (c) Scoured rock left by a retreating glacier
35. The doubling time of a country with a population of 100 million and a growth rate of 3.5% is  
 (a) 10 years (b) 20 years (c) 30 years (d) 40 years (e) 50 years.

Questions 36 - 39 refer to the graph below that shows changes in population size over time.



36. A mature, well established population in favorable conditions.  
 37. The carrying capacity of the environment.  
 38. A population in unfavorable conditions.  
 39. The exponential growth phase of a new population.