GED 108 **Environmental Science** Environmental Science: Toward a Sustainable Future

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Challenge Examination

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Completing Your Challenge Examination

When you enrolled, the admissions committee reviewed the materials you submitted and determined that based on your experience, you are eligible to challenge this course.

Challenge Examination Components

The Examination

The challenge examination is comparable to the final examination for the course. Questions may be multiple choice or true/false statements.

The Answer Sheet

The answer sheet for this challenge examination contains a bar code with your name, identification number and course number. The answer sheet may only be used for this examination. You may also complete your examination online using the Coast Connection student portal.

The Textbook

The examination is based on the contents of the textbook listed on the cover of this booklet. Although you are being given an opportunity to challenge this course based on academic competencies identified in your occupational or life experiences, we suggest you review the textbook prior to attempting the examination.

Before Beginning Your Examination

In order to successfully complete this course, we recommend that you do the following before beginning:

- Be sure that you have the correct edition of the course textbook.
- Become familiar with the contents of the textbook, beginning with the table of contents. Authors often include supplementary material at the end of the text, such as a glossary and/or reference section, that will help you as you complete your examination.

Many textbook publishers have developed excellent websites to accompany their textbooks. The site's address is generally printed on the introductory pages of the textbook or is sometimes found on the back cover. We recommend that you visit the website for your text. These sites can enrich your understanding of the course material.

Submitting Your Examination by Mail

You may send your completed challenge examination to the following mailing address:

California Coast University Testing Department 925 N. Spurgeon Street Santa Ana, California 92701

Submitting Your Examination Online

Students may access the online testing features via the Coast Connection student portal and complete and submit their examinations online.

After logging in to your online account, click on *My Academic Plan* and select the course you are working on to complete the challenge examination. It is recommended that you keep a copy of your examination answers for your own personal records.

Submitting Your Examination by Fax

You can also fax multiple choice examinations to the Grading Department at (714) 547-1451. When faxing exams, please do not resize your fax.

Examination Grading

Your grade in the course will be determined by the percentage of correct answers.

- A = 90% 100% correct
- B = 80% 90% correct
- C = 70% 79% correct
- D = 60% 69% correct
- F = 59% and below correct

Undergraduate students who receive a letter grade of "F" on their challenge examination will need to complete the study guide for the course. Graduate students who receive a letter grade of "D" or "F" will also be sent the study guide.

There is no additional charge for completing the study guide for the course if you do not pass the challenge examination.

Be sure to keep a copy of all work you submit to the university.

Multiple Choice Questions (Enter your answers on the enclosed answer sheet)

- 1) If atmospheric carbon dioxide was eliminated from our atmosphere, we would expect that the Earth would:
 - A) cool considerably and photosynthesis would dramatically increase.
 - B) cool considerably and photosynthesis would dramatically decrease.
 - C) heat up considerably and photosynthesis would dramatically increase.
 - D) heat up considerably and photosynthesis would dramatically decrease.

2) Which of the following is a correlation that is causing widespread concern?

A) As atmospheric oxygen levels decline, the ozone layer is being destroyed.B) As atmospheric carbon dioxide levels decline, the ozone layer is being destroyed.C) As levels of methane decline, average global temperatures are increasing.D) As levels of carbon dioxide increase, average global temperatures are increasing.

3) Which of the following is part of natural capital but not ecosystem capital?

A) solar energy used to drive photosynthesis throughout the biosphere B) coal and oil reserves

C) the production of electrical energy from wind turbines and dams

D) the genetic diversity of all plants and animals used in modern agriculture

4) From an ecological economist's perspective, without sustainability, as economies grow:

A) gross national product grows too.

B) natural resources are renewed.

- C) the natural world is depleted.
- D) natural ecosystems are replenished.

5) Natural capital includes ecosystem capital plus:

A) natural forms of energy, such as solar, wind, and flowing water.

B) nonrenewable resources such as fossil fuels.

C) money available to invest in growing industry.

D) all of the products of photosynthesis in the biosphere.

6) Which of the following is not an element of intangible capital?

- A) produced capital
- B) human capital
- C) social capital
- D) knowledge assets

- 7) Uncertain about the best way to keep his new lizard alive, Jerome places a heat lamp at one end of the long lizard cage. Over several days, Jerome notices that the lizard tends to sit in a certain place when the lamp is on. The lizard's selection of a particular place to stay represents its:
 - A) range of tolerance.
 - B) temperature optimum.
 - C) biotic conditioning.
 - D) use of a limited resource.
- 8) ______ are defined as two or more factors interacting in a way that causes an effect much greater than one would anticipate from each of the two acting separately.
 - A) Synergisms
 - B) Habitats
 - C) Niches
 - D) none of the above

9) Energy is lost as it moves from one trophic level to the next because:

A) one trophic level does not consume the entire trophic level below it.

B) some of the calories consumed drive cellular activities and do not add mass.

C) some ingested materials are undigested and eliminated.

D) All of the above.

10) In general, biomes at higher latitudes are most like:

- A) biomes at higher altitudes.
- B) aquatic biomes.
- C) biomes at lower altitudes.
- D) biomes at lower latitudes.
- 11) Biomes with more than 75 centimeters (30 inches) of rain a year and that never experience freezing temperatures are most likely found:
 - A) at high altitudes.
 - B) nearest the equator at low altitudes.
 - C) at high altitudes in temperate zones.
 - D) at high altitudes and high latitudes.
- 12) Biomes with permafrost are most likely:
 - A) covered in coniferous forests at high latitudes.
 - B) in temperate zones with deciduous trees.
 - C) located near the poles and without any trees.
 - D) located at high altitudes nearest the equator.

13) Biomes with less than 25 centimeters (10 inches) of rain a year are:

- A) high in primary productivity
- B) likely to have extremely cold winters.
- C) covered with coniferous trees.
- D) deserts.

14) Which of the following are current limiting factors for future human population growth?

- A) pollution and land for agriculture
- B) availability of oxygen and water
- C) fossil fuels and carbon dioxide production
- D) oxygen levels in the atmosphere and availability of sodium chloride
- 15) According to demographer Joel Cohen, the human carrying capacity:
 - A) can be calculated in the same way it is determined for other animal species.
 - B) depends upon a standard of living.
 - C) can clearly be determined.
 - D) largely depends upon the availability of fresh water.
- 16) In a significant 2004 paper reviewing 69 studies on world human population and carrying capacity, the authors estimated that the sustainable carrying capacity of humans for the planet is about:
 - A) 600 million.B) 2.5 billion.C) 7.7 billion.D) 20 billion.
- 17) According to the UN Population Division the world population will pass the 8 billion mark in:
 - A) 2014.B) 2025.C) 2050.D) 2100.
- 18) Which of the following activities would be consistent with the Millennium Development Goals?
 - A) help communities build technical and trade schools for boys to learn skills in high demand
 - B) develop coal, gold, and silver mines wherever possible as quick sources of jobs
 - C) provide meals and mosquito nets for every child under the age of five
 - D) encourage the expansion of national militaries to provide income and technical training

- 19) If the Millennium Development goal to eradicate extreme poverty and hunger by 2015 is achieved:
 - A) the proportion of people who suffer from hunger will be reduced by half.
 - B) no continent will have more than 10,000 people still hungry.
 - C) fertility rates will decline to those of most European nations.
 - D) the rural population of the world will nearly double.
- 20) Which of the following represents the Millennium Development Goal that has the greatest number of targets worsening instead of improving?
 - A) universal primary education
 - B) increased access to clean drinking water
 - C) reduced child mortality
 - D) decreased maternal childbirth deaths
- 21) What new concept in population matters was strongly emphasized at the International Conference on Population Development?
 - A) water availabilityB) AIDSC) reproductive health
 - D) none of the above
- 22) A rural farmer most likely obtains drinking water by drilling a deep well to use:
 - A) gravitational water that has percolated through soil and accumulated as groundwater.
 - B) gravitational water that is retained by the soil and accumulated just above the water table.
 - C) capillary water found in surface waters, located above the water table.
 - D) capillary water that has percolated through soil and accumulated below the groundwater.
- 23) About 99% of all liquid fresh water on Earth is found in:
 - A) lakes, including the Great Lakes of North America.
 - B) rivers such as the Amazon, Nile, and Mississippi watersheds.
 - C) underground aquifers.
 - D) the upper few meters of topsoil.

- 24) Which one of the following is fed by groundwater and often drained by seeps or springs?
 - A) lakesB) aquifersC) riversD) watersheds
- 25) In Costa Rica, a heavy downpour provides water that quickly evaporates or is absorbed and released by the dense vegetation of the tropical rain forest. This is an example of a cycle using:
 - A) condensation, evaporation, transpiration, and green water.
 - B) condensation, precipitation, and gravitational water.
 - C) evaporation, gravitational flow, and adiabatic cooling.
 - D) precipitation, gravitational flow, and convection.
- 26) Which of the following is NOT a principal loop in the hydrologic cycle?
 - A) evapotranspiration loop
 - B) precipitation loop
 - C) surface runoff loop
 - D) groundwater loop

27) Which one of the following soil orders is the most typical of drylands and deserts?

A) alfisolsB) oxisolsC) mollisolsD) aridisols

28) A hydric soil is one that:

- A) is typical of wetlands and may contain peat.
- B) is unusually well suited for agriculture.
- C) is typical of tropical areas that receive abundant rainfall.
- D) was typical of the U.S. prairie states until the Dust Bowl of the 1930s.

29) Which of the following would be best suited for planting crops such as corn or wheat?

A) an irrigated aridisolB) a fertilized alfisolC) a plowed oxisolD) an irrigated gelisol

- 30) Most plants acquire their minerals from:
 - A) the recycling of nutrients from detritus.
 - B) the precipitation of minerals from rainfall.
 - C) the weathering of rock.
 - D) dust storms that transport minerals into a region.
- 31) Which of the following would be classified as "soil constraints"?
 - A) cold climate
 - B) moderate to heavy rainfall
 - C) poor drainage, salinity and high levels of aluminum
 - D) low erosion potential and high levels of phosphorus
- 32) One of the general concerns about the widespread use of transgenic organisms is the:
 - A) spread of these transgenic traits to other organisms.
 - B) need to apply more pesticides to crops and plow the soil twice a year.
 - C) reduced yields that result from using bioengineered organisms.
 - D) pressure to bring more land into agricultural production.
- 33) ______ is the lack of essential nutrients, such as specific amino acids, vitamins and minerals, and can occur in people who eat nutritionally bad diets even if they have other food available.
 - A) Malnutrition
 - B) Undernourishment
 - C) Overnourishment
 - D) Hunger
- 34) ______ is a sedimentary material containing bitument, an extremely viscous, tarlike hydrocarbon.
 - A) Oil sand
 - B) Oil shale
 - C) Shale gas
 - D) Fracking
- 35) Which one of the following is a waste heat energy discharged into natural waterways?
 - A) thermal pollution
 - B) condenser
 - C) conversion
 - D) none of the above

36) This policy intended to establish energy policies for the United States for years to come:

- A) Energy Independence and Security Act of 2007.
- B) American Recovery and Reinvestment Act of 2009.
- C) Energy Policy Act of 2005.
- D) None of the above

37) How much oil can primary recovery remove in an oil field?

- A) 50%
 B) 18%
 C) 25%
 D) 67%
- 38) At present, the total number of long-term, commercial, below-ground nuclear waste depository sites in use in the United States is:
 - A) 0. B) 7. C) 23. D) over 100.

39) One of the major problems associated with long-term, high-level nuclear waste storage is:

- A) selecting an environment that will remain stable for more than 10,000 years.
- B) determining a cost-effective way to shoot waste into space.
- C) figuring out how to contain the material so that it does not leak into the ocean.
- D) creating a secure environment to protect the material from terrorists.

40) Yucca Mountain in the state of Nevada is:

- A) the location of a leaky nuclear power plant that will cost billions of dollars to clean up.
- B) the only potential site for long-term commercial nuclear waste storage in the United States, rejected for safety concerns in 2009.
- C) a military base that has accumulated low-level and high-level nuclear waste for many decades.
- D) the site of a lake that received illegal dumping of nuclear waste in the 1960s.

41) NIMBY is:

- A) a publicly perceived risk of siting a toxic or nuclear waste disposal facility near their homes.
- B) the U.S. federal agency that oversees nuclear power facilities.
- C) a U.N. organization in Geneva that directs the medical use of radioactive isotopes.
- D) the deciding factor in the approval of the Yucca Mountain disposal site in Nevada.

- 42) The Obama administration's commission on nuclear power waste disposal recommended:
 - A) the process of site selection should be kept secret from the public.
 - B) a private for-profit corporation should be engaged to choose and construct the facility.
 - C) that the sites should be spread over dozens of freshwater lakes in the northern United States.
 - D) there is an immediate need to develop temporary geological storage sites until a permanent one is located.
- 43) New Generation III nuclear plants such as the AP1000 Advanced Passive Reactor features:
 - A) a combination of nuclear fusion and fission in a single design.
 - B) a pressurized water system with many new passive safety features to prevent a LOCA.
 - C) a design that uses a mechanical source of X-rays for power.
 - D) designs based on the Fukushima Daiichi plant in Japan.
- 44) In a photovoltaic system, an inverter is required to:
 - A) directly convert surplus electricity into heat.
 - B) generate electricity from solar energy.
 - C) connect the DC current of the solar panel to the AC current of an electrical grid.
 - D) convert AC from the solar panel into DC of the grid.
- 45) Around the world, photovoltaic technology is quickly being adopted to generate electricity in:
 - A) large scale commercial power plants and on rooftop home units.
 - B) large scale commercial power plants but not yet on rooftop home units.
 - C) rooftop home units but not large scale commercial power plants.
 - D) small electronic applications such as calculators but not yet on rooftops or in commercial power plants.

46) The most costly aspect of photovoltaic technology is being addressed by:

- A) inventing a way to convert alternating current to direct current.
- B) inventing a way to convert direct current to alternating current.
- C) finding a way to reduce the damaging effects of the sun on solar panels.
- D) new technologies that reduce the cost of manufacturing solar cells.
- 47) Solar trough technology converts:
 - A) the ultraviolet light in sunlight directly into electricity.
 - B) the heat of the sun into steam to drive a turbogenerator.
 - C) sunlight into electricity which then produces steam heat.
 - D) the direct current generated by photovoltaic cells into alternating current.

48) Some milk becomes contaminated with mercury. If each of the following people consume 16 ounces of this contaminated milk each day for a month, who will most likely be impacted by this poison?

A) an 82-year-old woman
B) a fetus inside a mother who drinks this contaminated milk
C) a 12-year-old girl
D) a 51-year-old man

- 49) A pharmacist asks a mother about a new prescription for an antibiotic, wanting to be sure that the drug is for the mother. The pharmacist is most likely concerned because:
 - A) antibiotics do not typically work on children.
 - B) most types of antibiotics prescribed to an adult will likely kill a child.
 - C) a normal dosage for an adult can be toxic to a child.
 - D) a normal child's dosage may be toxic to an adult.
- 50) You learn that an old friend has died from a disease that resulted from their lifelong exposure to a substance. This loved one most likely died from:
 - A) whooping cough.B) a bacterial infection.C) cancer.D) malaria.
- 51) Which of the following contains the greatest number of carcinogens?
 - A) a thick vanilla milkshakeB) a Twinkie snackC) chewing tobaccoD) tap water from most cities in the United States
- 52) You examine an ice core sample from 10,000 years ago when global temperatures were unusually high. Based upon past studies and insights from current GHG levels, we expect that atmospheric levels of carbon dioxide:
 - A) and methane were unusually low.
 - B) and methane were unusually high.
 - C) were high but methane levels were low.
 - D) were low but methane levels were high.
- 53) In his movie, *An Inconvenient Truth*, Al Gore warns of increasing levels of carbon dioxide in the atmosphere which suggest that:
 - A) methane levels will soon rise, destroying the ozone layer.
 - B) global temperatures will also continue to rise.
 - C) the oceans of the world are losing carbon dioxide.
 - D) clouds are thinning and global precipitation is declining.

- 54) Evidence from proxies indicate eight major oscillations in global temperatures over the past 800,000 years, most likely the result of:
 - A) rising and falling sea levels that greatly impact photosynthetic activity.
 - B) variations in solar activity that produce different levels of radiation.
 - C) Milankovitch cycles of periodic variations in Earth's orbits around the sun.
 - D) lunar cycles in which the moon orbits at different distances from the Earth.
- 55) In general, temperatures along an ocean coastline vary less than temperatures 100 miles inland. This moderation of temperatures along coastlines is because:
 - A) as the oceans evaporate it cools off the coastlines.
 - B) the sun shines more intensely away from the ocean coastlines.
 - C) ocean temperatures change more quickly than air temperatures.
 - D) they have an innate heat capacity.
- 56) In our world, something with the greatest heat capacity is able to:
 - A) evaporate the most water from its surface.
 - B) retain its heat the longest.
 - C) insulate the best.
 - D) reflect the greatest amount of sunshine.
- 57) Which of the following is not an ocean-atmosphere oscillation?
 - A) North Atlantic Oscillation
 - B) Hawaiian Oscillation
 - C) Interdecadel Pacific Oscillation
 - D) El Nino Southern Oscillation
- 58) Which one of the following principles of smart-growth will most likely result in less commuting for all residents?
 - A) have states purchase open spaces
 - B) set physical boundaries on urban sprawl
 - C) build new homes and stores on existing abandoned or brownfield urban properties
 - D) promote the integration of homes, stores, light industry, and professional offices
- 59) According to the U.S. Sprawlometer, the most sprawling and congested area is:
 - A) New York.
 - B) Los Angeles.
 - C) Greensboro, NC.
 - D) Riverside, CA.

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60) The Obama administration has moved to combat urban sprawl through the:

- A) Clean Air Act.
- B) Clean Water Act.
- C) American Recovery and Reinvestment Act.
- D) ISTEA.

61) In a large city experiencing urban blight, we would be surprised to find:

- A) improving schools.
- B) a declining tax base.
- C) depreciating real estate.
- D) increasing crime.

62) The common denominators of livable cities include:

- A) low population density, concentrated housing, few stores and businesses, wide high ways, and abundant parking.
- B) low population density, heterogeneous mixtures of residences and businesses, wide highways, and abundant parking for efficient transportation.
- C) high population density but heterogeneous mixtures of residences and businesses that encourage people to socially interact.
- D) high population density, concentrated housing, limited business and stores, and a carcentered approach that makes driving easy.
- 63) The main financial problems for a city experiencing urban blight result from:
 - A) a declining tax base.
 - B) increasing industrial growth.
 - C) the need to build new schools.
 - D) increasing use of public transportation.
- 64) Biodiversity is important because:
 - A) if certain species decline, there would be too much oxygen in the atmosphere.
 - B) humans can use new sources of food.
 - C) if certain species decline, photosynthesis may not be possible.
 - D) it is necessary to maintain stability of ecosystems.

65) Which of the following terms best applies to the practice of environmental science?

- A) highly specialized
- B) integrative and interdisciplinary
- C) abstract
- D) theoretical

66) During the Great Depression, conservation:

- A) was simply a luxury that could not be afforded.
- B) efforts were opposed by millions of people who had no time to go to parks.
- C) provided work and helped restore land.
- D) was devalued as most national parks and national forests were harvested for timber and coal.

67) The environmental movement was a grassroots initiative that:

- A) has remained focused on issues related to renewable energy.
- B) primarily addressed growing pollution of the environment.
- C) directly led to the green revolution.
- D) has focused on efforts to control infectious diseases throughout the world.
- 68) Which of the following is true today?
 - A) environmental policy springs mostly from science and not election results
 - B) deregulation efforts typically leads toward more effective policy
 - C) national elections rarely influence environmental policy
 - D) environmental policy debates are always politically divisive

69) Which of the following best illustrates sound science?

- A) measuring wind velocities to determine the cost-effectiveness of windmills in a region
- B) asking voters to determine if windmills should be placed in their community
- C) selecting a source of energy based upon profitability and yield of tax dollars
- D) lobbying government officials to increase drilling for offshore oil

70) All scientific investigations are initially founded upon:

- A) multiple hypotheses, some of which are unanswerable.
- B) good experiments.
- C) good observations.
- D) an already accepted theory.

- 71) Discriminatory trade practices that favor industrialized countries over developing countries are:
 - A) rare and are gradually being eliminated.
 - B) not issues of concern to environmental scientists.
 - C) the number one issue at every meeting of the World Trade Organization.
 - D) ways that industrialized countries support sustainable resource management.
- 72) The Doha Round of WTO meetings have failed to reach agreement about:
 - A) currency exchange.
 - B) farm subsidies and trade barriers.
 - C) converting the economies of developed nation from green to brown.
 - D) how to control public protests at future WTO meetings.
- 73) The ecological economic paradigm argues that the environment encompasses the economy because the environment is essential to provide:
 - A) vital raw materials and ecosystem services and absorb wastes.
 - B) solar energy needed for plants and to light our environment during the day.
 - C) transportation along highways, railways, rivers, and oceans.
 - D) the energy necessary to run our homes and factories.
- 74) What do the GDP and the World Bank both fail to include in their measures of wealth?
 - A) the importance of law and order in a society
 - B) the gradual deterioration of machinery used in industrial manufacturing
 - C) the income from the sales of goods abroad
 - D) natural services provided by ecosystem
- 75) Discount rates calculate the:
 - A) future value of an asset.
 - B) aesthetic value of natural assets.
 - C) current value of a future benefit or cost.
 - D) intrinsic value of renewable resources.

76) Millions of human lives could be saved if we developed environmental policies that:

- A) control outbreaks of autoimmune diseases.
- B) provide food and shelter for the developing nations of the world.
- C) prevent the degradation of the environment and encouraged sustainable use.
- D) promote the construction of dams and power plants in the least developed parts of the world.

77) Environmental government policies and regulations are applied at the:

- A) local, state, and federal levels.
- B) state and federal levels.
- C) federal level only.
- D) local level only.
- 78) In general, careful and detailed economic studies indicate that environmental protection helps the environment:
 - A) but hurts the economy and is bad for jobs.
 - B) and does not hurt the economy or cost a net loss of jobs.
 - C) and helps the economy but costs the loss of jobs.
 - D) and produces more jobs but hurts the economy.

79) The elimination of leaded gasoline resulted in:

- A) a doubling of gas mileage in cars.
- B) a 40% increase in the sale of diesel-powered vehicles.
- C) a benefit to cost ratio of at least 10 to 1.
- D) the renewal of the ozone layer.

80) From 2001 to 2009, the Bush administration:

- A) strengthened the United States support of the Kyoto Protocol.
- B) developed an energy policy that favored heavy exploitation of fossil fuels.
- C) strengthened air and water quality standards.
- D) supported carbon emission reduction and renewable energy development.

- 81) A form of a biome is largely predicted by its:
 - A) diversity of plant and animal species.
 - B) diversity of soil microorganisms.
 - C) temperature and rainfall.
 - D) distance from the ocean.
- 82) During sublimation:
 - A) water changes from a solid directly to a gaseous form.
 - B) water molecules condense to form a liquid.
 - C) additional oxygen is added to water.
 - D) water molecules change their basic structure.
- 83) With few exceptions, inorganic compounds do not have:
 - A) nitrogen-oxygen bonds or carbon-oxygen bonds.
 - B) carbon-hydrogen bonds or carbon-carbon bonds.
 - C) hydrogen-nitrogen bonds or carbon-oxygen bonds.
 - D) potassium-sodium bonds or hydrogen-chlorine bonds.

84) Which of the following are products of photosynthesis?

- A) oxygen and sugar
- B) water and oxygen
- C) light and heat
- D) carbon dioxide and water

85) Energy:

- A) and nutrients flow one way through ecosystems.
- B) and nutrients both cycle within ecosystems.
- C) cycles within ecosystems, while nutrients flow only one way through ecosystems.
- D) flows one way through ecosystems, but nutrients cycle within ecosystems.

86) Biogeochemical cycles involve:

A) only biological processes.

- B) the cyclic movement of materials through ecosystems
- C) only geological and chemical processes.
- D) heat loss from both respiration and photosynthesis.

87) The Haber-Bosch process creates nitrogenous fertilizers by:

- A) extracting reactive nitrogen from soils.
- B) extracting nitrogen oxides from the gases produced when fossil fuels are burned.
- C) converting nitrogen gas and hydrogen to ammonia.
- D) allowing vegetative detritus to break down under anaerobic conditions.

88)Which one of the following statements about the carbon, phosphorus, and nitrogen cycles is true?

- A) The major source of carbon used by plants is the soil.
- B) The major source of nitrogen used by plants is rock.
- C) Phosphorus has no atmospheric component.
- D) Bacteria drive the phosphorus cycle.
- 89) On land, the carbon used today in photosynthesis to form carbon atoms of plant tissues is mostly returned to the air because of:
 - A) respiration in plants, animals, and organisms in the soil.
 - B) plate tectonics.
 - C) additional photosynthesis in the same plants.
 - D) erosion, decay, and general weathering.
- 90) Ultimately, the sunlight energy that strikes Earth is:
 - A) stored permanently in minerals and rocks deep within the oceans.
 - B) stored permanently in molecules that are located deep within the Earth.
 - C) eventually lost into space as heat.
 - D) converted to potential energy and stored in animals and plant tissues permanently.
- 91) In logistic growth (an S-shaped curve), how does population growth change as the population nears its carrying capacity?
 - A) Population growth increases.
 - B) Population growth remains steady.
 - C) Population growth decreases.
 - D) Population growth typically crashes when a population nears its carrying capacity.
- 92) Which of the following represents a type of top-down regulation for rattlesnakes living in Arizona?
 - A) the number of snake-eating hawks in the region
 - B) the number of mice in the region
 - C) abundance of rocks under which snakes can hide
 - D) the availability of fresh water

93) Parasites:

- A) affect their hosts in a density-independent manner.
- B) and their hosts represent a type of intraspecific competition.
- C) occur in animals but not plants.
- D) may live inside or outside of their host.

94) A keystone species:

A) typically reduces overall biodiversity of an ecosystem.

- B) has a disproportionately large impact on the stability of an ecosystem.
- C) is typically an herbivore.
- D) is an example of amensalism.

95) Genetic diversity in a species does not arise from:

A) need or want.B) hybridization.C) crossover.D) mutations.

96) Adaptation takes place in response to:

A) anticipated needs.

B) only the selective pressures they experience.

- C) selective pressures they have not yet experienced.
- D) only selective pressures that favor survival.

97) Introduced species are a growing problem primarily because of:

- A) global trade and travel.
- B) plate tectonics.
- C) the speed at which new species form.
- D) global climate change.
- 98) The risk of introducing a natural enemy to control an invasive species is that:
 - A) it might drive the invasive species to extinction.
 - B) the natural enemy might evolve into a new species.
 - C) the natural enemy might also become a pest.
 - D) the natural enemy may introduce genetic diversity into the invasive species.

- 99) The unusual organisms living in Australia have evolved primarily because of:
 - A) the unique position of Australia on the face of Earth.
 - B) shifting ocean currents around the continent.
 - C) the unusual climates of Australia.
 - D) long term isolation of the continent.
- 100) Which one of the following is a trait that increases the chances of survival for an endangered species?
 - A) geographical distribution
 - B) a food source consisting of a single species
 - C) large size
 - D) small number of offspring