AP® Environmental Science
Sample Multiple-Choice Questions

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THIS IS NOT A COMPLETE EXAMINATION.

Sample Multiple-Choice Questions

The following are examples of the kinds of multiple-choice questions found on the AP Environmental Science Exam. The distribution of topics and range of difficulty are illustrative of the composition of the exam. Students should spend an average time of less than one minute on each multiple-choice question, since 90 minutes are allotted for answering 100 questions.

Directions: The lettered choices on the graph below refer to the numbered statements immediately following it. Select the one lettered choice that best fits each statement. Each choice may be used once, more than once, or not at all in each set.

Questions 1–3 refer to the lettered points of the curves plotted on the graph below. The curves show two possible patterns of change in population size over time for a certain species of small mammal in an ecosystem.
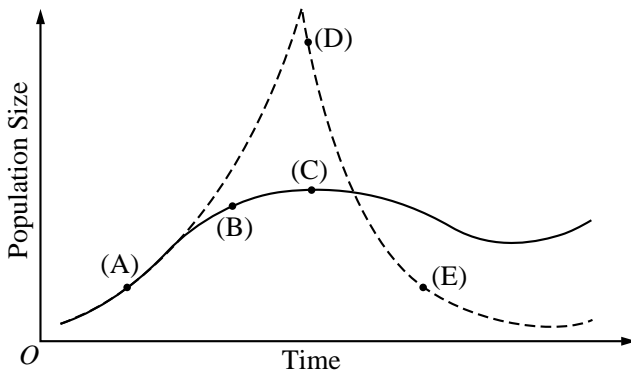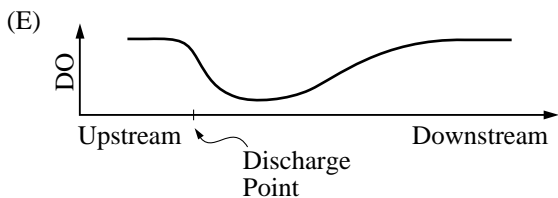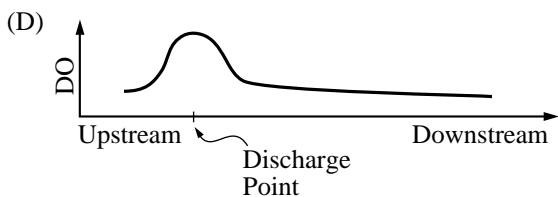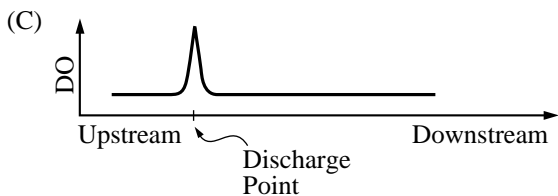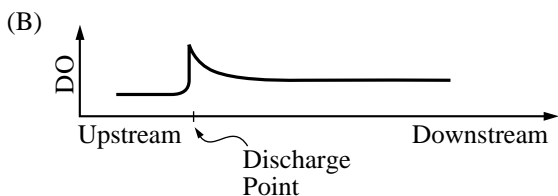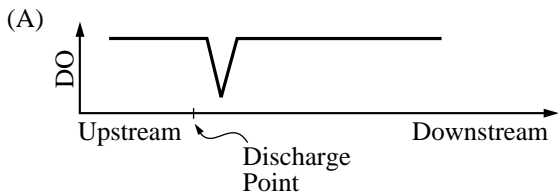

1.   Population growing exponentially

2.   Population decreasing at greatest rate

3.   Population growing at a decreasing rate

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case.

4. Which of the following is LEAST likely to be an effect of global warming?
   (A) Loss of fertile delta regions for agriculture
   (B) Change in global patterns of precipitation
   (C) Extinction of some species that have narrow temperature requirements
   (D) Decreased rate of photosynthesis in vegetation
   (E) Increased frequency of hurricanes

5. When X joules of nuclear energy is used to produce Y joules of electrical energy, which of the following is true?
   (A) In every case, $X > Y$
   (B) In every case, $X = Y$
   (C) In every case, $X < Y$
   (D) Either $X < Y$ or $X > Y$, depending on the efficiency of the generator
   (E) Either $X < Y$ or $X > Y$, depending on the amount of heat produced

6. A point source discharges organic waste into a stream. Which of the following graphs best depicts the expected pattern for dissolved oxygen (DO) in this stream as a function of distance from the discharge point?

(A)

DO

Upstream   Downstream
         Discharge
         Point

(B)

DO

Upstream   Downstream
         Discharge
         Point

(C)

DO

Upstream   Downstream
         Discharge
         Point

(D)

DO

Upstream   Downstream
         Discharge
         Point

(E)

DO

Upstream   Downstream
         Discharge
         Point

7. Of the following, which has the greatest permeability?
   (A) Clay
   (B) Loam
   (C) Sand
   (D) Silt
   (E) Humus

8. Reasons that the population size of an exotic species often grows rapidly when the species is introduced in a new environment include which of the following?

      I. The exotic species is resistant to pesticides.
      II. There is a large, underutilized food source in the new environment.
      III. The exotic species has few natural predators in the new environment.
   (A) I only
   (B) II only
   (C) I and III only
   (D) II and III only
   (E) I, II, and III

9. Most of the Earth's deserts are at approximately 30° latitude, north and south, because these latitudes are characterized by
   (A) generally warm ocean currents
   (B) predominantly low atmospheric pressure
   (C) descending dry air currents
   (D) slow-moving jet streams
   (E) enhanced solar radiation

10. The presence of which of the following contaminants would be the strongest reason for judging municipal sewage sludge unfit for use as fertilizer?
   (A) Human feces
   (B) Ammonia
   (C) Phosphates
   (D) Nitrates
   (E) Heavy metals

11. Which of the following is the best example of environmental remediation?
    (A) A species of trout becomes extinct in a eutrophic lake.
    (B) The annual volume of sewage flowing into a stream is decreased by one half.
    (C) The height of a factory smokestack is increased.
    (D) A parcel of forest land is declared a state park.
    (E) PCB-consuming bacteria are sprayed on an area that has soil contaminated with PCB's.

12. The CITES treaty has been helpful in protecting endangered animals and plants by
    (A) listing all species that can be hunted, traded, and used commercially
    (B) listing those species and products whose international trade is controlled
    (C) funding projects for breeding endangered plants and animals
    (D) preventing the hunting of whales and dolphins
    (E) specifying prices for certain plant and animal products

13. A country currently has a population of 100 million and an annual growth rate of 3.5 percent. If the growth rate remains constant, what will be the population of this country in 40 years?
    (A) 150 million
    (B) 200 million
    (C) 300 million
    (D) 400 million
    (E) 800 million

14. The dangers of disposing of toxic chemicals underground came to public attention in which of the following locations?
    (A) Bhopal, India
    (B) Chernobyl, Ukraine
    (C) Love Canal, New York
    (D) Minamata, Japan
    (E) Three Mile Island, Pennsylvania

15. Which type of electricity-generating power plant releases radioactive materials as well as toxic metals such as lead and arsenic under normal operating conditions?
    (A) Nuclear
    (B) Hydroelectric
    (C) Solar
    (D) Coal-burning
    (E) Geothermal

16. Which of the following greenhouse gases has the greatest heat-trapping ability per molecule?
    (A) Carbon dioxide
    (B) Carbon monoxide
    (C) Chlorofluorocarbon
    (D) Methane
    (E) Nitrous oxide

17. Of the following, the greatest threat to populations of migratory North American songbirds is
    (A) predation by raptors
    (B) clearing of tropical forests
    (C) disease from polluted waters
    (D) sport hunting
    (E) international trade in pets

Answers to Multiple-Choice Questions

1 – A	4 – D	7 – C	10 – E	13 – D	16 – C
2 – D	5 – A	8 – D	11 – E	14 – C	17 – B
3 – B	6 – E	9 – C	12 – B	15 – D	