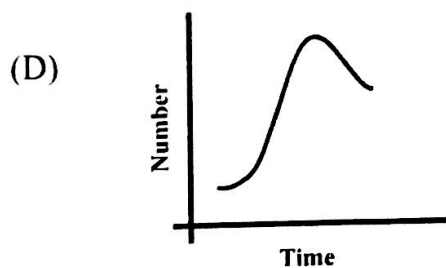
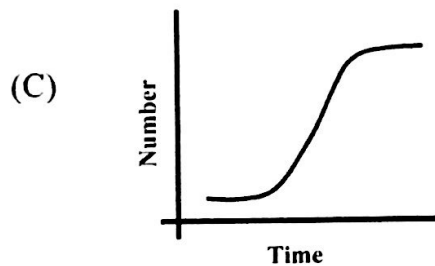
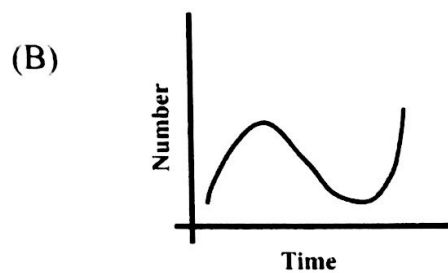
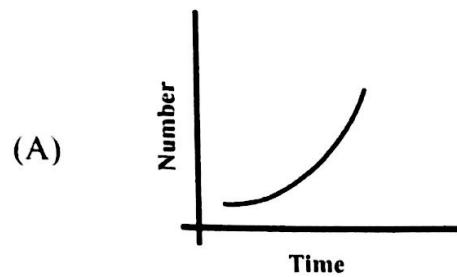


Review Sheet - Interactions of Living Things
Biology 2201

1. What is illustrated when: *Blowfly larvae are given a restricted amount of food, fewer adults survive and the population size is reduced.*
 - (A) Commensalism
 - (B) Intraspecific competition
 - (C) Interspecific competition
 - (D) Predation
2. Which of the following has **NOT** contributed to the growth of the human population?
 - (A) environmental degradation
 - (B) improved nutrition
 - (C) improved sanitation
 - (D) vaccines
3. Which of the following has **NOT** contributed to the rapid growth of human population?
 - (A) average age to first give birth
 - (B) carrying capacity of the environment
 - (C) high percentage of young people
 - (D) modern medical techniques
4. Which of the following would be **MOST** helpful in solving the world's environmental problems?
 - (A) Decreased human birth rates
 - (B) Increased agricultural productivity
 - (C) Increased life expectancy
 - (D) More food from the oceans

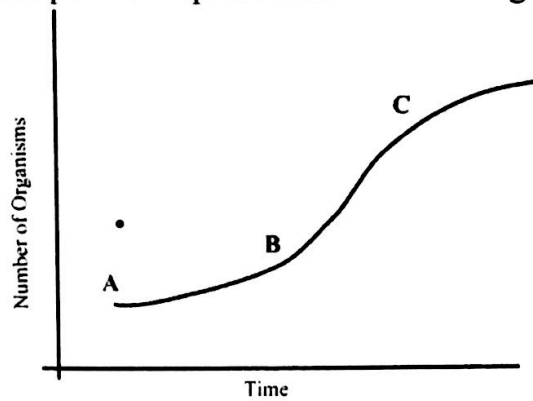
5. A pregnant female rabbit moves into a new area uninhabited by other rabbits. Which graph would **BEST** represent the growth in population during the first three years?



6. Which of the following is a density-independent factor limiting human population growth?

- (A) disease
- (B) earthquakes
- (C) famines
- (D) plagues

7. What does point A represent in the following graph?

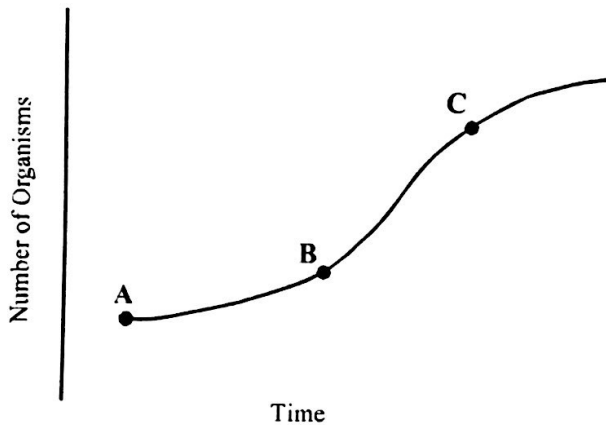


- (A) The extinction point for that species.
(B) The introduction of new species into an area.
(C) The point at which a predator has been introduced in an area.
(D) The time when birth rate and death rate is equal.
8. Which statement about the logistic model of population growth is **INCORRECT**?
- (A) It exactly predicts the population growth of most populations.
(B) It fits an S-shaped curve.
(C) It incorporates the concept of carrying capacity.
(D) It predicts an eventual state in which birth rate equals death rate.
9. What is the primary outcome of the “greenhouse effect”?
- (A) Greater plant growth
(B) Higher air temperatures
(C) Less rainfall
(D) Stronger wind currents
10. Which term is illustrated by an organism that produces more offspring than the environment can support?
- (A) Biotic potential
(B) Carrying capacity
(C) Environmental resistance
(D) Limiting factor
11. Which factor has the **LEAST** effect on human population doubling time?
- (A) Age of first reproduction
(B) Death rate
(C) Environmental conditions
(D) Number of offspring

12. Assume that rabbits feed entirely on small shrubs and that foxes feed on the rabbits. What might be the major short term effect if **ALL** foxes were eliminated?

- (A) Rabbits would decrease.
- (B) Rabbits would decrease and shrubs increase.
- (C) Rabbits would not be affected.
- (D) Shrubs would decrease.

13. What factor is causing the changes in the graph from point C onward?



- (A) The population birth rate is less than the population death rate.
- (B) The population is being heavily preyed upon.
- (C) The population has reached its carrying capacity.
- (D) The population has run out of food.

14. Malthus predicted that disease, starvation, and war would constantly reduce the human population and keep it in check. The world population today is 4 to 5 times as large as it was in his day and still climbing. Which statement best explains this situation?

- (A) Agriculture has become far more efficient than Malthus could have envisioned.
- (B) Birth rates and death rates have increased greatly to keep population in check.
- (C) Malthus realized the potential of modern warfare.
- (D) Malthus underestimated the effect of disease.

15. What relationship will exist between two species that share a common niche and migrate into a common area?

- (A) Commensalism
- (B) Intraspecific competition
- (C) Interdependence
- (D) Interspecific competition

Essay Questions

Populations generally undergo evolutionary change given sufficient time.

Do you believe this statement applies to the human population? Give **ONE** argument in support of your belief

Describe **ONE** harmful effect for each of the following on the environment:

- 1) Greenhouse effect
- 2) Ozone depletion
- 3) Habitat destruction

BIOLOGY 2201

Unit IV Review

Population Growth

1. What is the name given to all of the limiting factors that prevent organisms from reaching their biotic potential?
2. What is the point of the growth curve at which the population gains individuals at the same rate as it loses individuals?
3. What effect does a high birth rate have on a population?
4. What 4 components determine the growth rate of a population?
5. Name 2 density dependent factors.
6. How does the size of a prey population effect the carrying capacity of a predator population?
7. How would a low density of whales in a given area affect whale population growth?
8. Name 2 density independent factors that would affect a population size.
9. What factors prevent a population from growing exponentially for any period of time?
10. How are population equilibrium and carrying capacity related?
11. How does an exponential growth curve differ from a realistic growth curve?
12. If the sum of immigration and birth rate is greater than the sum of the emigration and the death rate, what happens to the rate of population growth?
13. How might an increase in the lynx population affect the population of plants on which snowshoe hare feed?
14. What is the relationship between interspecific competition and the competitive exclusion principle?
15. Suppose a single female rabbit produces 6 offspring. These 6 rabbits are the second generation. If half of the rabbits produced in each generation are female and go on to produce 6 offspring, how many rabbits will be in the population by the fourth generation? Each female reproduces for one generation only.