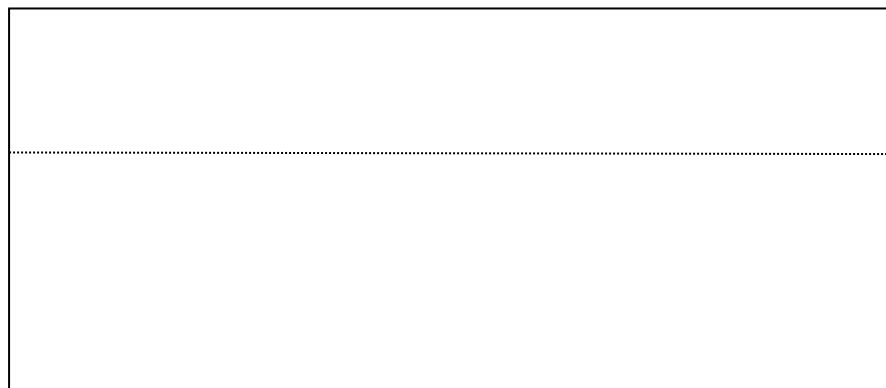


## Population Dynamics

### General Terms:

1. population-
2. biotic potential-
3. logistic growth-
4. exponential growth-
5. carrying capacity(K)-
6. zero population growth(ZPG)-
7. k-strategists-
8. r-strategists-
9. doubling time-
10. immigration-
11. emigration-
12. crude birth rate-
13. crude death rate-
14. total fertility rate (TFR)-
15. replacement fertility rate (RFR)-
16. demography-

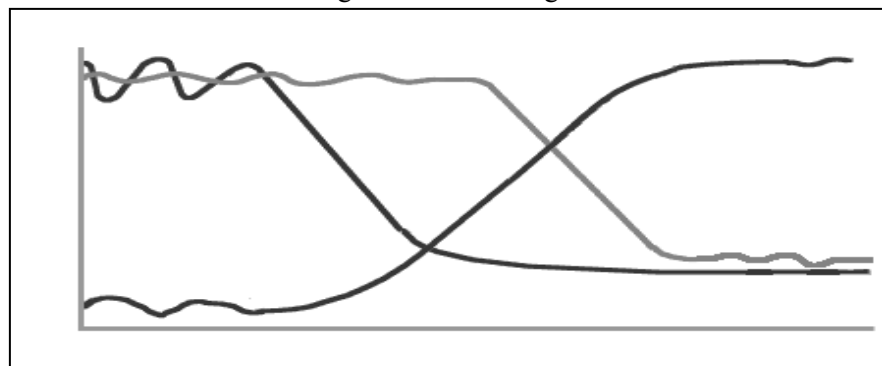
### Illustrations:



Logistic and Exponential Growth



Age - Structure Diagram



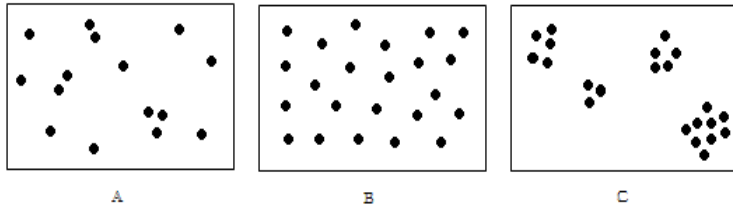
Demographic Transition

*Multiple Choice Questions*

1. Carrying capacity of a population is determined by
- I. Biotic Potential
  - II. Environmental Resistance
  - III. Reproductive Strategies
- a) I only
  - b) I and II only
  - c) I and III only
  - d) I, II, and III
  - e) None of the above

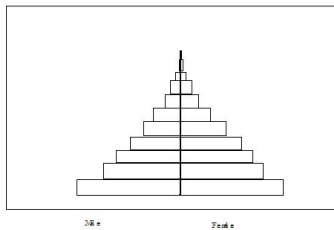
6. The diagram above shows a population that is experiencing
- a) Zero population growth
  - b) Rapid population growth
  - c) Slow population growth
  - d) High unemployment
  - e) Decreasing population growth
7. Emigration refers to
- a) Organisms moving into an area
  - b) The difference between per capita birth and death rates
  - c) The total number of organisms living in a given area
  - d) Organisms moving out of an area
  - e) None of the above

*Questions 2-4 refer to the following illustrations.*



2. This type of population distribution is often shown by territorial animals.
3. This type of population distribution is exhibited by organisms that gather near needed resources.
4. The type of population distribution that is exhibited by organisms that reproduce by wind dispersed seeds.

*Questions 5 and 6 refer to the following graph.*



5. The type of diagram shown above is referred to as an
- a) Age-Structure diagram
  - b) Energy Pyramid
  - c) Life Table
  - d) Survivorship Table
  - e) Trophic structure diagram

*Free Response*

The human population has been increasing at alarming rates. While the human population increases there are some countries that have declining populations, and others that are increasing at near exponential rates.

- A. Assuming an annual growth rate of 1.2%, approximately how many years would it take for the human population to double?
- B. Identify one country, or region, that has a decreasing human population, and one country, or region, whose human population is increasing.
- C. A country with a population of 1 million has a crude birth rate of 20 and a crude death rate of 10. It has no immigration or emigration. What is the percentage growth rate during this year, and approximately how long would it take for this population to double?
- D. Identify and describe one step that can be taken to slow a country's growth rate.