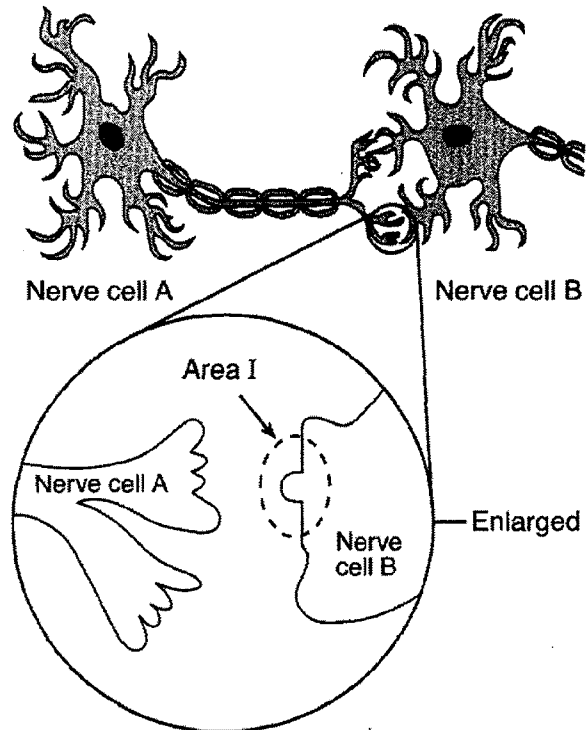
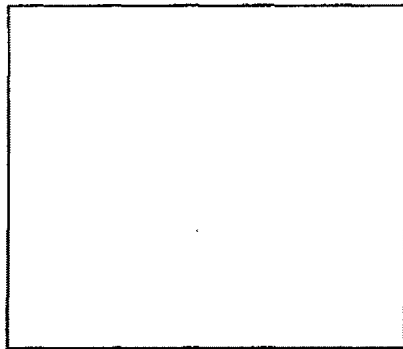


Body Systems

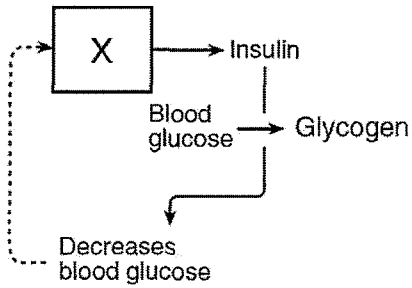
Base your answers to questions 1 and 2 on the diagram of nerve cells below and on your knowledge of biology.



1. Describe what would happen if a drug molecule shaped like were introduced into this nerve pathway.
2. In the space below, sketch a chemical molecule that might be released from nerve cell *A* and be recognized and bind to area I of nerve cell *B*.



Body Systems



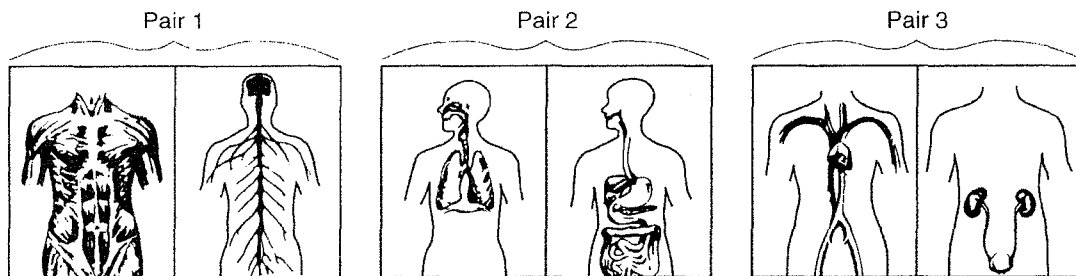
Base your answers to questions 3 and 4 on

3. The dashed line in the diagram represents

- 1) a digestive process
- 2) a feedback mechanism
- 3) cellular differentiation
- 4) recycling of organic chemicals

4. Identify the organ labeled X.

5. The diagrams below represent some of the systems that make up the human body.



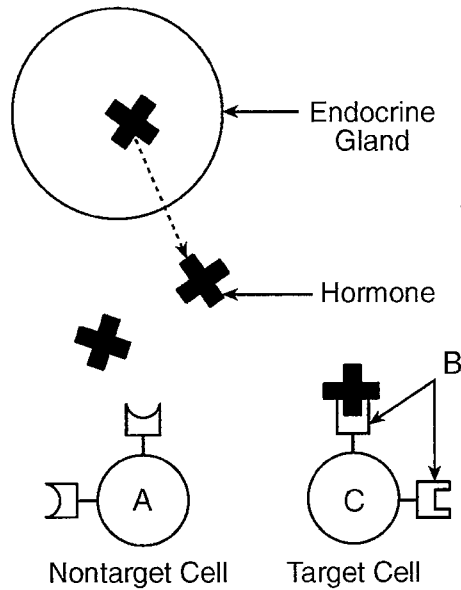
Select one of the pairs of systems and write its number below. For the pair selected, identify each system and state one function of that system. Explain how the two systems work together to help maintain homeostasis in an individual.

Body Systems

6. Using appropriate information, fill in spaces *A* and *B* in the chart below. In space *A* identify an organ in the human body where molecules diffuse into the blood. In space *B* identify a specific molecule that diffuses into the blood at this organ.

An organ in the human body where molecules diffuse into the blood	A specific molecule that diffuses into the blood at this organ
A	B

7. Base your answer to the following question on the diagram below which illustrates a role of hormones.

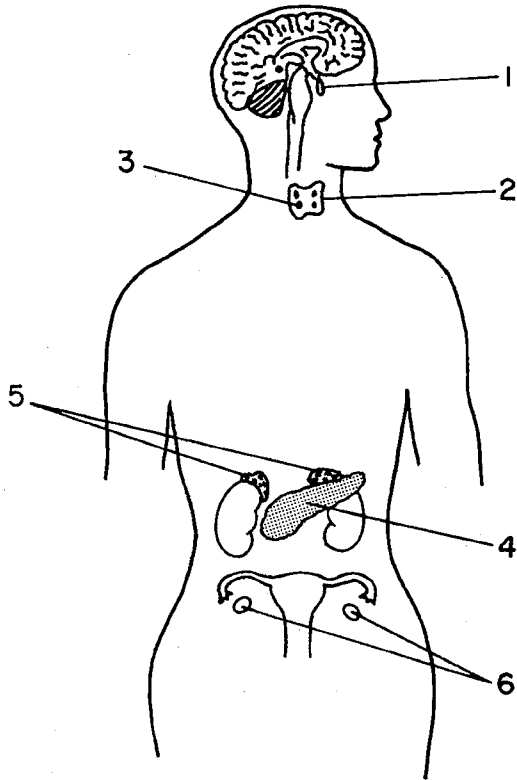


Letter *B* indicates :

- 1) ribosomes 2) receptor molecules 3) tissues 4) inorganic substances

Body Systems

Base your answers to questions 14 and 15 on the diagram below which represents the location of several endocrine glands found within a human body and on your knowledge of biology.



14. Which gland produces parathormone, which regulates the metabolism of calcium?

- | | |
|------|------|
| 1) 1 | 3) 3 |
| 2) 2 | 4) 5 |

15. Which gland secretes a hormone that stimulates the development of egg cells in ovaries and influences the secretion of other hormones involved in human reproduction?

- | | |
|------|------|
| 1) 1 | 3) 5 |
| 2) 2 | 4) 4 |

16. Food is moved through the small intestine by a muscular process known as

- 1) passive transport
- 2) phagocytosis
- 3) dehydration synthesis
- 4) peristalsis

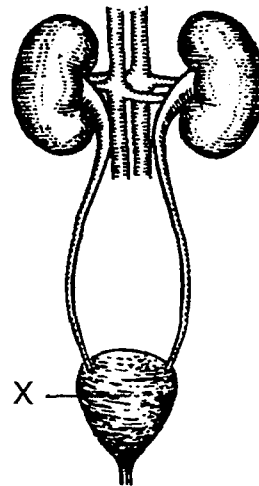
17. In humans, structures that absorb most of the products of digestion are the

- 1) ducts of the pancreas
- 2) cells of the esophagus
- 3) villi of the small intestine
- 4) muscular folds of the gallbladder

18. Which two systems are most directly involved in providing molecules needed for the synthesis of fats in human cells?

- 1) digestive and circulatory
- 2) excretory and digestive
- 3) immune and muscular
- 4) reproductive and circulatory

19. What is the principal function of the excretory structure indicated by letter X in the diagram below?



- | | |
|-----------------|-------------|
| 1) reabsorption | 3) storage |
| 2) filtration | 4) egestion |

Body Systems

20. Which system is correctly paired with its function?
- 1) immune system-intake and distribution of oxygen to cells of the body
 - 2) excretory system-remove potentially dangerous materials from the body
 - 3) digestive system-transport energy-rich molecules to cells
 - 4) circulatory system-produce building blocks of complex compound