SECTION 51-3 QUESTIONS
FEEDBACK MECHANISMS

DEFINE THE FOLLOWING TERMS

1. antagonistic hormones

2. feedback mechanism

3. negative feedback

4. positive feedback

ANALYSIS- Look at the two graphs (Figure 51-11) on p. 1039 and answer the following questions.

5. In the graph labeled "Negative Feedback", substance B is the initial step in the series of events that causes production of substance A. What happens as the concentration of A increases?

6. In the graph labeled "Positive Feedback", initial production of B causes production of A. What happens now as the concentration of A increases?

Look at the graph on p. 1043. Refer to the information on p. 1036, if necessary.

7. Which hormones are primarily responsible for the changes in blood glucose levels shown on the graph?

8. Identify and explain the type of feedback mechanism that enables the body to adjust the blood glucose level after eating.

MULTIPLE CHOICE

9. The endocrine system
    a. Affects only the nervous system
    b. Helps maintain homeostasis
    c. Affects only the reproductive system
    d. Primarily uses positive feedback

10. Homeostasis requires the coordination of
    a. Organs
    b. Cells
    c. Tissues
    d. All of the above

11. In a negative feedback system, the end product
    a. Inhibits the first step
    b. Inhibits the last step
    c. Stimulates the first step
    d. Stimulates the last step

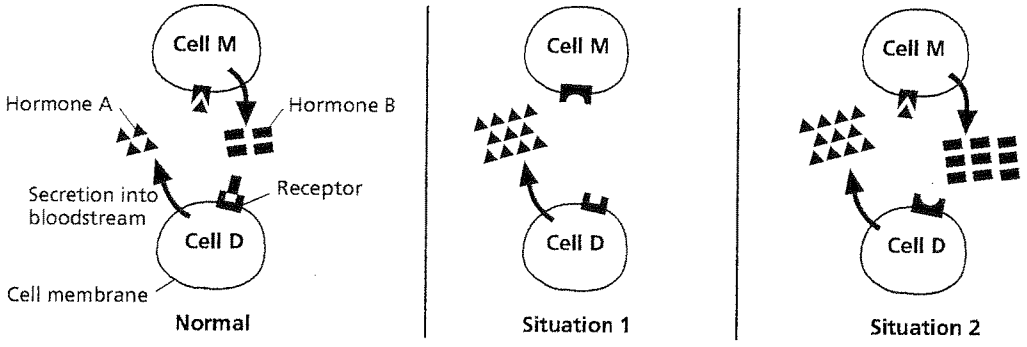
12. Cells that produce the regulating (initial) hormone or substance in a negative feedback mechanism must
    a. Be in the pituitary gland
    b. Secrete steroid hormones
    c. Have receptors for the hormone being released
    d. Be linked to the nervous system

SHORT ANSWER

13. Why is positive feedback NOT an efficient way to control hormone levels?

14. Explain what would happen if hormone concentrations were ONLY regulated by positive feedback mechanisms.

STRUCTURES AND FUNCTIONS Use the figure of a feedback mechanism below to answer the following questions. In the figure, the number of hormone molecules represents the relative blood concentrations of *hormone A* and *hormone B*.



15. Which cell is defective in *Situation 1?* What happens to the hormone concentrations as a result of this defect? _____

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16. Which cell is defective in *Situation 2?* What happens to the hormone concentrations as a result of this defect? _____

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