

**Test Bank**  
to accompany  
*An Introduction to Behavioral Endocrinology*, Fifth Edition  
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**Chapter 2: The Endocrine System**

**Multiple Choice**

1. The endocrine functions of the pancreas are limited to the \_\_\_\_\_-cells.
- a.  $\alpha$
  - b.  $\beta$
  - c.  $\delta$
  - d. All of the above

Answer: d

2. Gonadal sex (differentiation) depends on
- a. estrogens.
  - b. chromosomal sex.
  - c. androgens.
  - d. gender differences.

Answer: b

3. Hormones are secreted
- a. into the circulatory system by glands.
  - b. by every cell in the body.
  - c. into the synaptic cleft by ducts.
  - d. only during prenatal development.

Answer: a

4. Polypeptide and monoamine hormones typically
- a. bind with receptors in the cell nucleus.
  - b. bind with receptors in the cell membrane.
  - c. produce their effects within seconds following secretion.
  - d. bind with low affinity to receptors.

Answer: b

5. The pituitary is often referred to as the “master gland” but it is itself under control by the
- a. adenohypophysis.
  - b. hippocampus.
  - c. neurohypophysis.
  - d. hypothalamus.

Answer: d

6. What factor directly causes the Wolffian tract to develop into the male accessory organs (epididymis, vas deferens, and seminal vesicles)?

- a. Expression of testis determination factor (*TDF*) gene on the Y chromosome
- b. Secretion of testosterone by the testes
- c. Secretion of Müllerian regression hormone by Sertoli cells
- d. Secretion of estrogen by the ovaries

Answer: b

7. What is the name of the hormone (discovered in 1994) that is secreted by adipose cells?

- a. Bombesin
- b. Leptin
- c. *ob*
- d. CCK

Answer: b

8. Which statement about steroids is true?

- a. Steroids are made from cholesterol.
- b. Different steroids all have the same function.
- c. Estrogens are only found in females.
- d. Androgens are only found in males.

Answer: a

9. One of the primary differences between hormones and neurotransmitters is that

- a. neurotransmitters bind with specific receptor types.
- b. hormones are expelled from the cell through exocytosis.
- c. neurotransmitters depolarize target membrane.
- d. hormones are secreted into the circulatory system.

Answer: d

10. Hormones are generally regulated

- a. through a positive feedback system.
- b. through a negative feedback system.
- c. by exocrine glands.
- d. by paracrine glands.

Answer: b

11. Which of the following is *not* a feature of the endocrine system?

- a. Hormones are secreted to the blood stream.
- b. Endocrine glands have a rich blood supply.
- c. Each endocrine gland secretes only one type of hormone.
- d. Endocrine glands are ductless.
- e. Hormones travel in the blood to every cell in the body. Thus they can interact with any cell that expresses the appropriate receptor.

Answer: c

12. Which hormones are secreted by the posterior pituitary gland?

- a. Oxytocin and growth hormone
- b. Tropic hormones and oxytocin
- c. Vasopressin and melatonin
- d. Vasopressin and oxytocin

Answer: d

13. Which endocrine gland is *not* located at the periphery?

- a. The pineal gland
- b. The adrenal gland
- c. The pancreas
- d. The thyroid gland

Answer: a

14. Pheromones are an example of what type of chemical communication?

- a. Autocrine
- b. Paracrine
- c. Ectocrine
- d. Intracrine

Answer: c

15. Polypeptide and monoamine hormones typically

- a. bind with receptors in the cell nucleus.
- b. bind with receptors in the cell cytoplasm.
- c. activate a second messenger cascade.
- d. require a carrier protein to travel through the blood.

Answer: c

16. All of the following are regulated by hypothalamic stimulation of the pituitary *except*

- a. calcitonin.
- b. LH.
- c. growth hormone.
- d. ACTH.

Answer: a

### Short Answer

1. List three major endocrine glands. Give an example of a hormone secreted from each, and then list a primary function of each hormone.

2. List three of the four major vertebrate steroid hormones.

3. List three of the four classes of hormones

4. Describe the enzymatic pathway in which tryptophan is transformed to melatonin and state for each step whether it happens during the day or night.
5. Why was the discovery of kisspeptin significant for the field of reproductive biology?

### **Essay**

1. Compare and contrast the physical properties and mechanisms of action for steroid and peptide hormones.
2. Describe three different methods used to measure hormone concentrations in the blood. Provide advantages and disadvantages to each technique.
3. Describe one major endocrine gland. In the description include where it is located, what its primary physiological function is, and how its hormonal messages are transduced.
4. Compare and contrast the properties of simple negative and positive feedback.