

Chapters 9 & 10 - Test Review (Human Body Systems)

Human Systems (General):

- Organization within the body (cell - tissues - organs - systems)
- Homeostasis

Nervous system:

- response to stimuli
- 3 types of neurons + parts of the neurons
- nerve impulses
- divisions of the system
 - Brain: meninges, cerebrospinal fluid, cerebrum, cerebellum, brain stem, thalamus, hypothalamus
 - Spinal Cord
 - Peripheral system
- Problems of the nervous system

Jan 11-8:24 AM

Endocrine System:

- Hormones, glands and target cells
- Types of glands
- 7 main glands and jobs
- 2 types of hormones
- local hormones
- negative feedback control mechanism
- complimentary hormone action control mechanism

Jan 11-8:44 AM

Reproductive System:

- Gonads and gametes of the male and female reproductive systems
- Roles of FSH and LH in the male and female reproductive systems
- Male reproductive system:
 - Production and structure of sperm
 - Role of testes, epididymis, vas deferens and urethra
- Female Reproductive System
 - Role of ovaries, follicle cells, Fallopian tubes and uterus
 - Menstrual cycle (Follicular stage; Ovulation stage; Luteal stage; Menstruation)
- Fertilization process
- Development of zygote --> embryo
 - implantation, gastrulation, neurulation
 - purpose of amnion and chorion tissues
- Childbirth (roles of oxytocin and prolactin)

Jan 10-9:07 AM

Review Questions

Textbook:

Ch. 35 (p. 917) MC: # 2 - 7
11 - 16, 27, 30

Ch. 39 (p. 1027) MC: 1 - 4, 7-9
11 - 14, 17, 18, 20, 22, 24, 27, 30, 32, 35

Jan 11-8:47 AM

Ch. 35: The Nervous System

#2. b #3. a #4. d #5. a #6. c #7. b

11. Cell, tissue, organ, organ system, organism
12. Unless cells of the body are kept at a temperature within a certain range, supplied with energy, bathed in fluid, and cleansed of waste—in short, unless homeostasis is maintained—permanent injury or death can occur.
13. The largest part of a typical neuron is the cell body, which contains the cell nucleus and much of the cytoplasm. The cell body is where most of the cell's metabolic activity occurs. Short, branched extensions called dendrites carry impulses from the environment or other neurons toward the cell body. The long fiber that carries impulses away from the cell body is called the axon, which ends in small swellings called axon terminals.
14. During a resting potential, potassium ions (K⁺) diffuse across a neuron's cell membrane more easily than do sodium ions (Na⁺), resulting in a negative charge inside the cell membrane. During an action potential, the cell membrane becomes more permeable to Na⁺ ions, resulting in a reversal of charges.
15. According to the all-or-none principle, any stimulus that is stronger than the threshold will produce an impulse and any stimulus below the threshold will not produce an impulse.
16. The cerebrum consists of two hemispheres, each divided into regions called lobes. A band of tissue known as the corpus callosum connects the two hemispheres. The cerebrum is responsible for the voluntary, or conscious, activities of the body. It is the site of intelligence, learning, and judgment.
27. If an axon is disconnected from a nerve cell body, the pathway of an outgoing nerve impulse will be disrupted.
30. With less myelin, nerve impulses in people with MS will travel more slowly. This will result in loss of control over motor functions, leading to paralysis, poor coordination, slurred speech, blurred vision, and tremor.

Jan 11-9:14 AM

Ch. 39: The Endocrine and Reproductive Systems

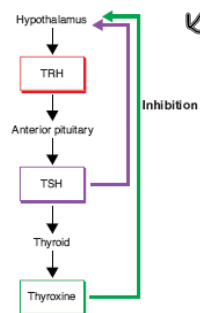
#1. b #2. b #3. b #4. d
#7. b #8. c #9. c

11. A hormone binds to a specific chemical receptor on a target cell or to receptors inside the cell. For example, progesterone binds to a receptor site inside a uterine cell.
12. Prostaglandins are hormone-like substances that affect only nearby cells or tissues.
13. When the level of a hormone increases in the blood, it "feeds back" to inhibit the gland that produced it.
14. The pituitary gland

17. A period of rapid growth and sexual maturation during which the reproductive system becomes fully functional
18. Follicle-stimulating hormone (FSH) and luteinizing hormone (LH)
20. A sperm cell consists of a head containing a highly condensed nucleus, a midpiece packed with mitochondria, and a flagellum that propels it forward.
22. Development of the reproductive system and female secondary sex characteristics, regulation of the menstrual cycle, and preparation of the uterus for implantation
27. The placenta, which contains maternal and fetal tissues, can be thought of as the fetus's organ of respiration, nutrition, and excretion.
24. The menstrual cycle is regulated by hormones that are controlled by feedback inhibition mechanisms. For example, the hypothalamus reacts to low estrogen levels in the blood by producing a releasing hormone that acts on the pituitary gland. In response, the pituitary releases FSH and LH.

Jan 11-9:10 AM

30. Students' drawings should show that the level of thyroxine in the blood stimulates the hypothalamus and then the pituitary gland to produce more or less thyroid-stimulating hormone, which, in turn, leads to the production of more or less thyroxine by the thyroid gland.



32. The placenta is made up of two layers, the fetal portion and the maternal portion. This two-layered structure allows the blood of the mother and the embryo to flow past each other but not to mix.

35. Insufficient amounts of FSH and LH would cause follicles to fail to develop to maturity and release mature eggs. Further, without a rise in estrogen and progesterone, the uterine lining would not be maintained.

Jan 10-9:25 AM