

Section 8: Nervous and Endocrine Systems

- Organization within the human body: cells – tissues – organs – organ systems
- Nervous system: receives, processes and responds to both internal and external stimuli
 - 3 types of neurons and their parts; Diagram of a neuron (dendrite, axon, myelin sheath, cell body)
 - Central nervous system and peripheral nervous system
 - Disorders of the nervous system
 - The Eye – major parts and functions
- Endocrine system: creates hormones for a body-wide communication system
 - 2 types of glands and 2 types of hormones
 - Negative feedback control system vs. complimentary hormone actions
 - Prostaglandins: local hormones

Section 9: The Human Reproductive System

- Major parts of the male reproductive system (scrotum, penis, testes, seminiferous tubules, epididymis, vas deferens, bulbourethral gland, prostate, seminal vesicle)
- Sperm production and structure of a sperm cell
- Major parts of the female reproductive system (ovaries, uterus, vagina, fallopian tubes, cervix)
- Menstrual cycle (FSH and LH, follicle cells, corpus luteum, follicular phase, ovulation, luteal phase)
- Fertilization and Embryonic Development (implantation, differentiation of cells, blastula, embryo, fetus)
- Role of Placenta
- Childbirth

Practice questions:

- 1) Why is it important for the body to maintain homeostasis?
- 2) Both the nervous and endocrine system help the body respond to particular situations. How are their roles different?
- 3) What are the two major types of hormones? How does each work?
- 4) What are voluntary and involuntary actions? Which parts of the brain control them?
- 5) What are prostaglandins and why are they called “local hormones?”
- 6) Sketch and label the basic structure of a neuron.
- 7) Describe the process of fertilization.
- 8) What is the role of the placenta?
- 9) What is oxytocin, and what is its role in childbirth?
- 10) Trace the path of a sperm cell from production in a testis until it leaves the body.
- 11) Trace the path of an unfertilized egg until it leaves the body.
- 12) Explain why the menstrual cycle is a feedback mechanism.