# Honors Bio Unit 9 Review

Urinary System and Excretion Nervous System Senses Musculoskeletal System Chapter 16: Urinary System and Excretion

 What type of metabolic waste comes from the breakdown of: creatine phosphate? amino acids/proteins? nucleotides?
 How does the excretory system help maintain the water/salt balance?
 How does the excretory system help maintain blood pH?
 What hormones are connected with the excretory system and what do they each do?
 Name the organs of the excretory system?

#### Chapter 16: Urinary System and Excretion....cont.

6. What are the three parts of the kidney?7. What is the pathway of urine starting at the pelvis of the kidney.

8. What is the function of your bladder?9. What is the functional unit of the kidney?

10. List the pathway of blood through the nephron starting at the renal artery....

11. List the pathway of urine/waste through the nephron starting at the glomerular capsule...

- 1 \_\_\_\_ is the elimination of metabolic waste, and \_\_\_\_ is the elimination of undigested food.
  - A Excretion, absorption
  - **B** Defecation, excretion
  - C Excretion, defecation
  - **D** None of these are correct.

#### Chapter 16: Urinary System and Excretion....cont. 12. Describe glomerular filtration, tubular reabsorption and tubular secretion.

- 13. In the nephron what happens at:
  - a. the proximal convoluted tubule?
  - b. the descending loop?
  - c. the ascending loop?
  - d. distal convoluted tubule?
  - e. collecting duct?
- 14. Where does most tubular secretion occur?
- 15. What can cause renal failure?....what are the treatments?

**16.** REVIEW YOUR URINARY LAB AND THE TEST YOU PERFORMED & ADDITIONAL OBJECTIVES!!!

- 2 Breakdown of \_\_\_ produces \_\_\_, which can cause \_\_\_.
  - A proteins, fats, gout
  - B nucleotides, ammonia, high blood pressure
  - C nucleotides, uric acid, gout
  - D fats, acids, diabetes

- 3 The function of EPO (erythropoietin) is
  - A reabsorption of sodium ions.
  - B excretion of potassium ions.
  - C reabsorption of water.
  - D stimulation of red blood cell production.
  - E to increase blood pressure.

- 4 The function of renin is
  - A reabsorption of sodium ions.
  - **B** excretion of potassium ions.
  - C reabsorption of water.
  - D stimulation of red blood cell production.
  - E to increase blood pressure.

- 5 Urine transport follows which order?
  - A kidneys, urethra, bladder, ureter
  - B kidneys, ureter, bladder, urethra
  - C bladder, kidneys, ureter, urethra
  - D urethra, kidneys, ureter, bladder

- 6 An \_\_\_\_ artery exits the glomerulus.
  - A afferent
  - **B** efferent
  - C Both a and b are correct
  - D Neither a nor b are correct

- 7 Filtration is associated with the
  - A glomerular capsule
  - B distal convoluted tubule
  - C collecting duct
  - D All of these are correct

- 8 The presence of ADH (antidiuretic hormone) causes an individual to excrete
  - A less salt
  - B less water
  - C more water
  - D more salt
  - E Both a and c are correct

# 9 By what process are most molecules secreted from the blood into the distal convoluted tubule?

- A osmosis
- B diffusion
- C active transport
- D facilitated diffusion

- 10 In humans, water is
  - A found in the glomerular filtrate
  - B reabsorbed from the nephron
  - C in the urine
  - D reabsorbed from the collecting duct
  - E All of these are correct

# 11 Urinary tract infections are usually caused by

- A viruses
- B bacteria
- C fungi
- D None of these are correct

# 12 The use of an artificial kidney is known as

- A filtration
- **B** excretion
- C hemodialysis
- D None of these are correct.

# Chapter 17: The Nervous System

1. Identify all the structures of the neuron and associated cells, and each of their functions.

2. Name and describe the functions of the three types of neurons.

3. The resting potential is due to the

sodium/potassium pump, describe it. 4. What is happening during an action potential?

5. What is happening immediately following an action potential?

6. What is a synapse?

## Chapter 17: The Nervous System....cont.

7. What happens at the synapse:

a. when an action potential arrives?

b. what makes the neurotransmitter get released into the cleft?

c. what happens next?

8. What types/#'s of nerves (sensory, motor or mixed) are attached to the brain? spinal cord?

9. What is the CNS? PNS? Somatic NS?

10. The ANS is composed of two divisions, describe them.

**11. Describe the steps of a reflex.** 

Chapter 17: The Nervous System...cont.
12. What part of the brain do drugs impact?
13. What is addiction?
14. What are the membranes around the CNS called?
15. What is the function of the spinal cord?
16. What is the difference between gray matter and white matter?
17. What part of the brain: ~learning, speech, memory? ~heartbeat/breathing?
~balance, muscle tone? ~homeostasis?
~memory/emotion? ~pay attention?
18. Review Reflex Lab and Additional Objectives

- 1 Which of these correctly describes the distribution of ions on either side of an axon when it is not conducting a nerve impulse?
  - A more sodium ions (Na+) outside and fewer potasium (K+) ions inside
  - B K+ outside and Na+ inside
  - C charged protein outside; Na+ and K + inside
  - D Na+ and K+ outside and water only inside
  - E Ca ++ inside and outside

- 2 Repolarization of an axon during an action potential is produced by
  - A inward diffusion of Na+
  - B active extrusion of K+
  - C outward diffusion of K+
  - D inward active transport of Na+

- 3 Transmission of the nerve impulse across a synapse is accomplished by
  - A the release of Na+ at the presynaptic membrane
  - B the release of neurotransmitters at the postsynaptic membrane
  - C the reception of neurotransmitters at the postsynaptic membrane
  - D Only a and c are correct

- 4 Synaptic vesicles are
  - A at the ends of dendrites and axons
  - B at the ends of axons only
  - C along the length of all long fibers
  - D at the ends of interneurons only
  - E Both b and d are correct

- 5 The autonomic system has two divisions, called
  - A the CNS and PNS
  - B the somatic and skeletal systems
  - C the efferent and afferent systems
  - D the sympathetic and parasympathetic divisions



- A cardiac muscle
- B smooth muscle
- C gland
- D All of these are correct

- 7 A spinal nerve takes nerve impulses
  - A to the CNS
  - B away from the CNS
  - C both to and away from the CNS
  - D only inside the CNS
  - E only from the cerebrum

### 8 The cerebellum

- A coordinates skeletal muscle movements.
- B receives sensory input from the joints and muscles.
- C receives motor input from the cerebral cortex.
- D All of these correct.



#### Chapter 18: Senses

 What are: the somatic senses? special senses? types of sensory receptors?
 What are the steps of sensation? Where does ALL sensation occur?
 What is the function of proprioceptors? What are the types of receptors in the skin?

4. What is it called when internal pain is felt somewhere on your skin?

5. Compare and contrast the sense of taste and the sense of smell?

6. What are the structures of the eye?

#### Chapter 18: Senses....cont.

7. Describe the pathway of light as it enters the eye.

8. What/where:

a. controls how much light enters the eye?

b. is it called when you adjust to close viewing?

c. is the area where cones are

concentrated?

d. is the light focused when you are nearsighted? (in front or behind retina?) farsighted?

e. blind spot?



- 1 Chemoreceptors are involved in: (MAP)
  - A touch
  - в smell
  - c pain
  - hearing
  - E taste
  - F speaking

- 2 Sensing both pressure and temperature would be a function of the
  - A eyes
  - B ears
  - C muscles
  - D skin

- 3 Tasting "sweet" versus "salty" is a result of
  - A activating different sensory receptors
  - B activating many versus few sensory receptors
  - C activating no sensory receptors.
  - D None of these are correct.

- 4 A sensory receptor
  - A is the first portion of a reflex arc
  - B inititates nerve impulses
  - C responds to only one type of stimulus
  - D is associated with a sensory neuron
  - E all of these are correct

- 5 The adjustment of the lens to focus on objects close to the viewer is called
  - A convergence
  - **B** accomodation
  - C focusing
  - D constriction
  - E old person



- 7 Which of these wouldn't you mention if you were tracing the part of sound vibrations?
  - A auditory canal
  - B tympanic membrane
  - C semicircular canals
  - D cochlea
  - E ossicles



- C cornea, pupil, lens, vitreous humor, retina
- D cornea, fovea centralis, lens, choroid, rods
- E optic nerve, sclera, choroid, retina, humors

- Chapter 19: Musculoskeletal System 1. What type of tissue is bone? How is it different from cartilage? What are bone cells called?
- 2. What is the difference between:
- ~ tendons and ligaments?
- ~ compact bone and spongy bone?
- ~ axial and the appendicular skeleton?
- ~ pectoral and pelvic girdle?
- ~ fibrous, cartilaginous and synovial joints?
- 3. What is an osteon? Haversion canal?

canaliculi?

4. What are the functions of the skeletal system?

Chapter 19: Musculoskeletal System....cont. 5. What are the functions of the skeletal system? the muscular system? 6. What are/is: ~ antagonistic pairs ~ origins and insertions? ~ sarcomeres and what do they form? ~ muscles with muscle tone? ~ a muscle twitch? tetanus? ~ atrophy and hypertrophy? ~ slow twitch and fast twitch? 7. What types of energy are used for contractions and why?

8. Name the structures of a sarcomere.

- 1 Which of these pairs is mismatched?
  - A slightly movable joint -- vertebrae
  - B hinge joint -- hip
  - C synovial joint -- elbow
  - D immovable joint -- sutures in cranium
  - E ball-and-socket joint -- hip

- 2 The part of the skeleton that consists of the pectoral and pelvic girdles and the bones of the arms and legs.
  - A axial skeleleton
  - B appendicular skeleton
  - C compact bone
  - D spongy bone
  - E osteons

- 3 In a muscle fiber,
  - A the sarcolemma is connective tissue holding the myofibrils together.
  - B the sarcoplasmic reticulum stores calcium.
  - C both myosin and actin filaments have cross-bridges.
  - D there is a T system but no endoplasmic reticulum.
  - E All of these are correct.

4 When muscles contract,

- A sarcomeres shorten
- B myosin breaks down ATP
- C actin slides past myosin
- D the H Zone disappears
- E All of these are correct

Do the multiple-choice questions at the end of each chapter....take them like you would a test...then check all your answers for each chapter at the back of the book!

Keep up the good work!

Love ya,

Ms. Litten