

## **Study Guide Exam 4**

### **Chapter 21 Respiratory System**

1. List the primary functions of the respiratory system and secondary functions of the respiratory tract.
2. List the organs that make up the upper and lower respiratory tracts.
3. Recognize and understand the role of the accessory structures.
4. Identify the epithelial layer for each section of the respiratory tract.
5. Describe the structure of the larynx, trachea, bronchi, pharynx, nasal cavity, bronchioles, alveolar. Know what respiratory tubes have cartilage.
6. List structures that are part of the conducting zone and those that are part of the respiratory zone.
7. Identify the area of gas exchange. Describe the area of gas exchange including: alveolar type I and II cells, macrophages, capillaries and connective tissue.
8. Give the lung division served by primary, secondary and tertiary bronchi. Identify the smallest lung division and what respiratory tube serves it.
9. Distinguish between the right and left lungs.
10. Identify and describe the hilus, parietal and visceral pleura, pleural cavity and chest wall.

### **Lab 10**

Be able to identify and give the function of each structure listed in the lab manual.

### **Chapter 22 Digestive System**

1. Give the two primary functions of the digestive system.
2. List the other activities of the digestive tract that support the primary functions of the digestive system.
3. List, give the function of and be able to locate on models and pictures each digestive system organ and accessory organ.
4. Describe and/or identify the macroscopic and microscopic structure of the oral cavity, esophagus, stomach, small intestines, colon, rectum, anus, pancreas and liver.
5. Describe the blood flow to and from the liver.
6. Give the source of bile and be able to trace its path from the source to its destination in the digestive tract.
7. Be able to draw/describe the four layers of the digestive tract and the structural features of each layer. Recognize the variations of the esophagus, stomach, small intestines and colon.
8. Understand what structural features enhance absorption.

### **Lab 11**

Be able to identify and give the function of each structure listed in the lab manual except 3b, 3c, and 7. Meet the objectives listed.

### **Chapter 23 Urinary System**

1. Give the primary function of the urinary system and the processes that support that function.
2. List, give the function of, and be able to identify on models and pictures each urinary system organ.
3. Describe and/or identify the macroscopic and microscopic structural features of the kidney, ureter, bladder and urethra covered in class.
4. Describe the blood flow through the kidney.
5. Describe the flow of filtrate (destined to become urine) through the kidney and onward to the opening of the urethra.

### **Lab 12**

Be able to identify and give the function of each structure listed in the lab manual.

## Chapter 24 Reproductive System

1. Give the primary function of the reproductive system.
2. List the primary sex organs and their functions.
3. Identify the organs/structures of the male reproductive system and understand what each structure does.
4. Know where sperm are formed and the route they take to leave the body.
5. Discuss the composition of semen and name the glands that contribute to it.
6. Identify the organs/structures of the female reproductive system and understand what each structure does.
7. Identify follicles including oocytes, granulosa cells and antrum in pictures of the ovary.
8. Understand the two ovarian phases of the menstrual cycle (follicular and luteal) and the ovarian structures that dominate each phase.
9. Describe the three uterine phases of the menstrual cycle in terms of the uterine lining (endometrium).
10. Differentiate myometrium from endometrium.

## Lab #13

1. Be able to meet the objectives listed in the lab manual. You will not have to identify the urogenital diaphragm (page45).

## Chapter 25 Endocrine System

1. Give the primary function of the endocrine system. (Regulating and controlling functions of the body.)
2. Define hormone and target.
3. Differentiate between an endocrine and exocrine gland.
4. Know the location of and primary function of each endocrine organ.

Endocrine Gland	Functions
hypothalamus	controls anterior pituitary produce posterior pituitary hormones (ADH and Oxytocin)
posterior pituitary (terminal boutons)	regulate blood pressure and water balance (ADH) contract uterine and mammary gland smooth muscle (Oxytocin)
anterior pituitary (5 types of cells)	growth and development (growth hormone) mammary gland development and milk production (prolactin) control gonads (FSH/LH) control thyroid (TSH) control adrenal cortex (ACTH)
pineal gland	involved in biological rhythms (melatonin)
thyroid	basal metabolism (thyroid hormones) calcium balance (calcitonin)
parathyroid	calcium balance
pancreas	blood sugar balance
adrenal cortex	mineral balance (mineralocorticoids - aldosterone) blood sugar balance, immune system modulation (glucocorticoids - cortisol)