Study Guide # 5

Human Anatomy

Respiratory System

1. Outline the anatomy of the two lungs within the pleural cavities within the thoracic cavity.
2. List the structures of the Respiratorysystem from the nose to alveoli where gases are exchanged.
3. Describe how the nasal cavity is designed to “treat” the inspired air on its way to the alveoli.
4. Compare the muscles of Ventilation – those for inspiration and expiration, at rest and forced.
5. Discuss the control of the ventilation muscles, and how they change the thoracic cavity.
6. Describe the cartilaginous arrangement of the larynx. What is the role of the larynx?
7. Explain what type of tissue ‘Respiratory Epithelium’ is and its primary role.
8. Where in the respiratory tract does respiratory epithelium change and why?
9. Describe how the bronchi (1o, 2o and 3o) differ from the bronchioles, and from the alveoli.
10. Discuss the alveoli and the 3 types of cells found there. What is the significance of Surfactant?

**Digestive System**

1. Outline and explain the length of the G.I. tract and the accessory organs and structures.
2. List the all the processes of the digestive system and give a detailed outline of their functions.
3. Describe the oral cavity. Describe the 3 extrinsic salivary glands, their roles and locations.
4. What are the 4 Histological layers of the GI tract? Describe their specific functions in all regions.
5. Describe the anatomy of the mucosa of the small intestine. How is it specialized for its function?
6. What are the submucosal and the myenteric plexuses? Discuss their functions in various regions.
7. Discuss the muscle layers of the GI tract? How are they typically arranged, are there exceptions?
8. Describe the anatomical/functional relationship of the liver, gallbladder, pancreas & duodenum.
9. The anatomy of the Hepatic Portal System ‘stabilizes’ venous blood; explain this statement.

**Urogenital: Renal and Reproductive Systems**

1. Describe the structures of the urinary system and the anatomy and functions of the kidney.
2. List and describe the widespread and various functions of the renal system within the body.
3. For the nephron (functional unit) of the kidneys, describe the two main components of it.
4. Discuss the role of the glomerulus, the renal tubules and the collecting ducts of the kidney.
5. Trace and name the renal blood supply to the nephron. How is its arrangement special?
6. Discuss the primary reproductive structures (gonads), the sex cells (gametes), and sex hormones.
7. Outline the role of the testes of the male, their location and the function of the spermatic cord.
8. Describe the male reproductive tract and accessory glands involved in maturation of sperm cells.
9. Outline the role of the ovaries, uterine tubes and uterus of the female within the pelvic cavity.
10. Describe the development of the ovarian follicle (and egg cell), the ovarian and uterine cycles.
11. Compare secondary sexual characteristics and reproductive structures for males and females.
12. Outline the processes for the formation of a zygote, implantation, development and parturition.