Objectives Exam 3

Endocrine System (Chapters 20 and 21)

Reading these chapters should help the student to:

1. Describe the location and embryonic origins of the pituitary gland.
2. Name the divisions of the pituitary gland.
3. Name the cell types in each pituitary division and indicate any characteristic staining properties.
4. Describe the role of the hypothalamus in controlling pituitary gland function.
5. List the pituitary hormones indicating their origin (division).
6. Describe the blood supply to the pituitary gland and its role in pituitary function.
7. Distinguish between the neurohypophysis and the adenohypophysis in a micrograph of the pituitary gland.
8. Describe the structure and function of the islets of Langerhans, the pineal gland, the adrenal (cortex and medulla), the thyroid and parathyroid glands.
9. Name the embryonic origin of the adrenal medulla, adrenal cortex, and thyroid glands.
10. Name the hormones produced by the adrenal (cortex and medulla), islets of Langerhans, thyroid and parathyroid glands and the pineal body.
11. Describe the histology of the adrenal cortex including the different zones and of the adrenal medulla.
12. Describe the histology of the thyroid and parathyroid glands.
13. Trace the steps of synthesis, storage and secretion of hormones by the thyroid's follicular cells.
14. Describe the islets of Langerhans.
15. Describe the histology of the pineal gland.
16. Identify each of the endocrine glands in micrographs.

Skin (Chapter 18)

Reading this chapter should help the student to:

1. List the functions of the skin.
2. Name the two major layers of the skin and their embryonic origin.
3. Recognize and describe and name the epidermal layers in a section of thick skin.
4. Name the four cell types of the epidermis and describe their structure, function and location.
5. Summarize the essential differences between thick and thin skin.
6. Describe the appendages of the skin, including their origin.
7. Name and compare the three types of glands in the skin in terms of structure and location.
8. Describe the principal types of mechanoreceptors in the skin.
10. Identify skin type, layers, hair follicles and glands in a micrograph of a section of skin.

Respiratory System (Chapter 17)

Reading this chapter should help the student to:

1. Differentiate between the following: upper and lower respiratory system, conducting and respiratory portions of the respiratory tract.
2. Explain the need for a double arterial blood supply to the respiratory system.
3. Compare sympathethic and parasympathetic effects on bronchial smooth muscle.
4. Describe the structure and location of the pleura.
5. Describe the general histology of a typical respiratory epithelium.
6. Describe the two types of nasal epithelium.
7. Define the terms mucosa, sub-mucosa, and adventitia.
8. List and describe the succession of air conducting and respiratory passages.
9. Describe the respiratory tract walls in terms of their histology. Emphasize the differences between the walls of different sections mentioning traits like amount and arrangement of cartilage, relative amount of smooth muscle, size of epithelial cells, ciliated vs. non-ciliated cells, number of glands, goblet cells vs. Clara cells.
10. Describe the structure of the intralveolar septum.
11. Recognize sections from different levels of the respiratory tract.

**Immune System and Lymphoid Organs (Chapter 14)**

Reading this chapter should help the student to:

1. Know the functions of the immune system
2. State key differences between cell-mediated and humoral immune responses
3. Differentiate, as to function, between primary and secondary lymphoid organs
4. Describe the basic histological organization and the main functions of the following lymphoid organs and tissues: thymus, lymph nodes, spleen, and MALT (sub-mucosal lymphoid nodules)
5. Identify the different lymphoid organs from micrographs