**4. Histology homework (Anatomy & Physiology)**

Name and date submitted (3 pts):

Create space in the Word document below, and write or type your answers. Turn in your completed work as an email attachment. Check your class emails for the due date.

(25 questions, 100 points possible)

Types of tissues (p. 110)

1. Name the four basic types of tissue in the human body

Cell junctions (beginning p. 110)

1. Tight junctions
   1. Describe what they are
   2. List three locations in the body
2. Adherens junctions
   1. Describe what they are
   2. What is their function when food moves through the intestines
3. Desmosomes
   1. Describe what they are
   2. List two locations they are “common”
   3. What do they prevent cardiac muscle cells from doing?
4. Hemidesmosomes
   1. How do these differ from desmosomes?
   2. Hemidesmosomes anchor cells not \_\_\_\_\_\_\_\_\_\_\_\_\_, but to \_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Gap junctions
   1. Describe what they are
   2. What is the purpose of the connexins?

Epithelial tissue (beginning p. 112)

1. Describe epithelial tissue to your spellbound colleagues at the Histology Symposium using 3-4 well written sentences
2. T/F: “Epithelial tissue forms coverings and linings throughout the body. It is never covered by another tissue.”
3. List the three major functions of epithelial tissue
4. Epithelial tissue (does/doesn’t) have its own nerve supply, and (does/doesn’t) have its own blood vessels.
5. Describe the four epithelial cell shapes (refer also to Fig. 4.3)
6. Describe the function of “keratin” in keratinized squamous tissue. What is it, and what does it do?
7. Table 4.1: Where do we find ‘simple cuboidal’ epithelial cells in the pancreas? Be specific.
8. Table 4.2: Where do we find epithelial cells in the thyroid gland? Be specific.

Connective tissue (beginning p. 123)

1. List the six (6) functions of connective tissue in the body
   1. It binds together….. etc
   2. It protects…. etc
   3. It compartmentalizes…. etc
   4. …and so on….
2. Connective tissue consists of two basic elements: \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_
3. There are 3 types of fibers embedded in the extracellular matrix between the cells of connective tissue, as follows:
   1. Collagen fiber: describe what it is, and what it does
   2. Collagen is found in which 4 types of connective tissue?
   3. Elastic fiber: describe what it is, and what it does
   4. Elastic fibers are plentiful in…
   5. Reticular fiber: describe what it is, and what it does
   6. Reticular fiber is found in these two ‘soft organs’
4. Table 4.4: Describe the function and location of adipose tissue (a type of connective tissue)
5. Table 4.4: Describe the function and location of hyaline cartilage (a type of connective tissue)
6. Table 4.4: Describe the function and location of compact bone (a type of connective tissue)

Muscular tissue (beginning p. 137)

1. The first paragraph lists these four functions of muscle tissue
2. Describe the structure and function of ‘skeletal muscle tissue’ to your 15 y/o neighbor, who needs an idea for a science paper
3. Describe the structure and function of ‘cardiac muscle tissue’ to a person sitting next to you on a plane flight you are taking to Malawi, Africa to construct safe drinking water facilities for a remote village
4. Describe the structure and function of ‘smooth muscle tissue’ to the young couple riding next to you on a train ride through the Alps from Austria to Italy, as you travel through Europe buying expensive artwork for one of your wealthy clients back home

Nervous tissue (beginning on p. 139)

1. Complete the sentence: “Neurons convert stimuli into electrical signals called \_\_\_\_\_\_\_\_\_ and conduct these action potentials to other \_\_\_\_\_\_\_\_\_, to \_\_\_\_\_\_\_\_\_\_\_\_, or to \_\_\_\_\_\_\_\_\_\_.