**These review questions are for the Tissues lecture topics. The questions were adapted from several sources, including 1700+ Review Questions for Anatomy and Physiology II (3rd edition) by R. Michael Anson, Ph.D.**

**Multiple choice review questions:**

1) Which term is used to describe the part of a neuron that detects stimulation?

 A) matrix

 B) dendrites

 C) axon

 D) myosin

2) The fibrous protein abundant in dense connective tissue is:

 A) insulin.

 B) cartilage.

 C) collagen.

 D) dentin.

3) The skin is considered an organ because it

 A) produces pigments.

 B) is composed of at least two tissues.

 C) protects the body.

 D) allows the body to detect sensory stimuli.

4) Adipose tissue is a type of

 A) cartilage

 B) endoplasmic reticulum

 C) connective tissue.

 D) blood.

**Answers to multiple choice problems:**

1) B

2) C

3) B

4) C

**Fill-in-the-blank review questions:**

1) The smallest living unit of the body is the \_\_\_\_\_.

2) The four major tissues types of the body are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

3) \_\_\_\_\_\_\_ tissue has tightly packed cells that form protective linings, such as the skin and the inner lining of hollow organs.

4) Name the two epithelial tissues types shown below and answer the questions beneath the drawings. Use the full and complete names of each tissue for full credit.

Tissue: Tissue:

 What do the black lines underneath each tissue represent?

5) We discussed three types of muscle tissue in class. In the blank after each description, name the muscle tissue type(s) that match the description. Some blanks may have more than one answer. Write all answers.

 a) You cannot make it contract whenever you want:

 b) It is found only in the heart:

 c) It is the only voluntary type of muscle:

 d) It is usually found as part of hollow organs: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 e) It has actin and myosin inside: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6) The drawings below shows cells from three of the tissues we discussed in lecture (the black dots are the nucleus of each cell). From the picture of the cells and description of the tissue, name each tissue type. Give the full and complete name of the tissue, which will require more than a one-word answer.

 It contracts and is found

 in many internal organs

 (such as the stomach).

 It lines internal cavities.

7) \_\_\_\_\_ tissue is characterized by cells that carry signals rapidly between body parts.

8) The cell below is a \_\_\_\_\_\_\_\_\_\_\_.

9) The single long extension of the neuron cell body is called a \_\_\_\_\_\_. Its function is to \_\_\_\_\_\_\_\_\_\_\_.

10) The smaller numerous extensions from the neuron cell body are called \_\_\_\_\_. Their function is to \_\_\_\_\_\_.

11) The cells of connective tissue do/don’t (circle one) touch their neighbors.

12) The \_\_\_\_\_ is the term for all the material that fills the spaces between the cells of connective tissues.

13) Which of the connective tissue types is…

 a) A soft jelly-like tissue that surrounds and protects many organs in the body? \_\_\_\_\_\_\_

 b) Is part of tendons and ligaments? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

14) \_\_\_\_\_ is a tough, extremely strong fibrous protein which gives dense connective tissue strength.

15) The major cells in loose and dense connective tissue are called \_\_\_\_\_.

16) The major cells in bone are called \_\_\_\_\_.

17) The major cells in cartilage are called \_\_\_\_\_.

18) Name the three types of cartilage: \_\_\_\_\_\_, \_\_\_\_\_\_, and \_\_\_\_\_\_.

Circle the one that forms discs between weight-bearing joints. Draw a star on the one that is found covering the tips of bones. Draw a box on the softest, most flexible type.

19) \_\_\_\_\_ tissue is the one connective tissue where the cells are packed tightly together, so it has no extracellular matrix.

20) Name the three types of blood cells: \_\_\_\_\_\_, \_\_\_\_\_\_, and \_\_\_\_\_\_.

Circle the type that controls blood clotting. Draw a star on the type that carries oxygen. Draw a box on the type that fights infections.

21) Write the full name of the connective tissue types described below. Be as exact as possible. Some answers require more than one word.

 a) Stores fat: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b) Its extracellular matrix is many strands of collagen with little ground substance: \_\_\_\_\_\_\_\_\_\_

 c) Has a liquid matrix \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 d) Its extracellular matrix is made of calcium phosphate \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 e) A rubbery tissue found at the tips of bones \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

22) The six major classes of connective tissue are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_\_, \_\_\_\_\_\_, and \_\_\_\_\_.

23) Name the type of protein fiber found in the extracellular matrix of almost all connective tissues:

 \_\_\_\_\_\_\_\_\_\_\_. There are two connective tissues, however, that have little if any of this protein in their

extracellular matrix. Name the two connective tissues that do not contain this protein: \_\_\_\_\_\_\_\_\_\_\_\_.

24) An organ is a structure made of several types of \_\_\_\_\_ working together for a common task.

25) Several organs working together on a common task form a(n) \_\_\_\_\_.

26) Arrange the following terms in the proper order, from smallest to largest:

 Organ

 Tissue

 Organ system

 Cell

 Organelle

**Answer to fill-in-the-blank review questions:**

1) Cell

2) Epithelial

Muscle

Nervous

Connective

3) Epithelial

4) Stratified squamous epithelial

 Pseudostratified columnar epithelial

 Basement membrane

5) Smooth and cardiac muscle

 Cardiac muscle

 Skeletal muscle

 Smooth muscle

 Skeletal, smooth, and cardiac muscle

6) Smooth muscle

 Stratified cuboidal

7) Nervous

8) Neuron

9) Axon

 Carry nervous signals

10) Dendrites

 Detect stimuli

11) Don’t

12) Extracellular matrix

13) a) Loose connective tissue

 b) Dense connective tissue

14) Collagen

15) Fibroblasts

16) Osteocytes

17) Chondrocytes

18) Hyaline cartilage (star)

 Elastic cartilage (boxed)

 Fibrocartilage (circled)

19) Adipose

20) Red blood cells (star)

 White blood cells (boxed)

 Platelets (circled)

21) Adipose

 Dense connective tissue

 Blood

 Bone

 Hyaline cartilage

22) Loose connective

 Dense connective

 Bone

 Cartilage

 Adipose

 Blood

23) Collagen

 Adipose

 Blood

24) Tissue

25) Organ system

26) Organelle

 Cell

 Tissue

 Organ

 Organ system

**Short answer review questions:**

1) A tissue is defined as:

2) We discussed six basic types of connective tissue in class. In the table below, name each tissue type, the cell(s) found in the tissue, and the composition of its extracellular matrix (the protein fibers and ground substance). (Adipose does not have an extracellular matrix).

Connective Tissue: Cell(s): Extracellular matrix:

a) \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f) \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Answer to short answer review questions:**

1) A tissue is a group of cells of the same type performing some function together.

2)

Connective Tissue: Cell(s): Extracellular matrix:

Loose connective Fibroblasts Jelly-like ground substance with some collagen

Dense connective Fibroblasts Almost entirely collagen

Bone Osteocytes Calcium phosphate ground substance with collagen

Cartilage Chondrocytes Chondrin ground substance with collagen

Adipose Adipocytes No matrix (cells are packed together)

Blood Red blood cells Plasma ground substance. No fibrous proteins.

 White blood cells

 Platelets