Section I – True/False (explain if false)

d) Frontal

The mitochondria is the site of energy production in the cell.
The correct order of structural organization is: chemical, cells, tissues, organs, organisms, organ systems.
Rostral means "toward the tail."
Palmar orientation refers to the walking surface of the front limb.
Homeostasis means the complete elimination of change in the body.
Positive feedback loops reduce the original stimulus and bring the body back to equilibrium.
The ribs are medial to the lungs.
The fetlock is proximal to the hoof.
The dorsal cavity in animals contains both the cranial and spinal cavities.
Somatic cells reproduce through meiosis.
Section II – Multiple Choice
Which connective tissue connects muscle to bone and expresses locomotion? a) Tendons b) Ligaments c) Cartilage d) Areolar tissue
Which plane divides the body into left and right halves?
a) Transverse
b) Sagittal
c) Dorsal

Which of the following is not a class of tissue?

- a) Epithelial
- b) Connective
- c) Nervous
- d) Membranes

Which of the following best describes physiology?

- a) The study of structure of the body
- b) The study of tissues and cells with a microscope
- c) The study of function of the body and its parts
- d) The classification of bones

Which of the following is a homologous structure?

- a) Bird wings and insect wings
- b) Front Cat leg bones and human arm bones
- c) Fish gills and human lungs
- d) Cow horns and rhino horns

Which type of epithelial cell is taller than wide and often found in the digestive tract?

- a) Cuboidal
- b) Columnar
- c) Squamous
- d) Transitional

Which of the following is NOT a necessary life function?

- a) Maintaining balance
- b) Excretion
- c) Reflexes
- d) Atmospheric pressure

Which of the following is avascular?

- a) Muscle tissue
- b) Nervous tissue
- c) Epithelial tissue
- d) Both b and c

Which connective tissue protects the articulating surfaces of long bones?

a) Bone

- b) Cartilage
- c) Adipose tissue
- d) Dense regular connective tissue

The cell membrane is primarily made of:

- a) Carbohydrates
- b) Nucleotides
- c) Phospholipid bilayer
- d) Polypeptides

Which epithelial tissue appears multilayered but is actually one layer?

- a) Stratified squamous
- b) Transitional
- c) Simple columnar
- d) Pseudostratified columnar

"Oseo" refers to:

- a) Bone
- b) Muscle
- c) Nerve
- d) Fat

Which feedback mechanism downregulates or counteracts the stimulus?

- a) Positive feedback
- b) Negative feedback
- c) Homeostatic imbalance
- d) Neutral feedback

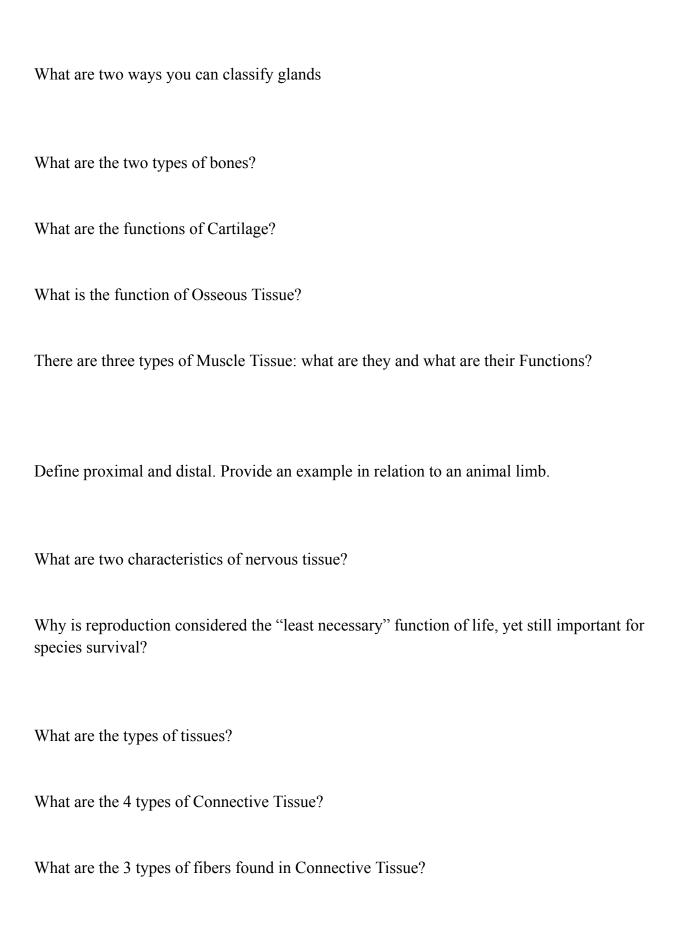
Which loose connective tissue is classified as CT proper?

- a) Adipose
- b) Areolar
- c) Reticular
- d) All of the above

Section III – Matching

Match the term with its best definition/association:

A. Ligaments
B. Endocrine glands
C. Cartilage
D. Osteoblasts
E. Adipose tissue
F. Areolar tissue
G. Reticular fibers
H. Serous membranes
Loose CT proper found under skin and around organs
Bone-forming cells
Found in joint coverings, kidneys, liver, and spleen
Connect bone to bone, stabilizing locomotion
Net-like collagen fiber framework
Ductless glands that secrete hormones
Covers thoracic, abdominal, and pelvic cavities
Protects articulating surfaces of long bones
Section IV – Short Answer
Explain the difference between positive and negative feedback loops. Give one example of each.
Why are epithelial tissues considered avascular, and how do they still receive nutrients?



Section V – Extended Response What are the properties of a connective tissue? Describe the regeneration process of epithelial tissue. Is blood classified as a connective tissue, why? What is the keratinization process? Explain the importance of homeostasis in animal physiology. What happens if homeostasis is disrupted?

List the five survival needs of animals. Which is most important and why?

Compare and contrast epithelial tissue and connective tissue in terms of structure, function, and location
Name as many Connective Tissue Cells and their Functions.