

## Animal Physiology Final Review

Some questions of process:

Concepts and Terminology

Describe a specific example of each of the following types of control of hormone secretion: hormonal, humoral and nervous.

Describe how chemically regulated gates and voltage regulated gates each contribute to the generation and conduction of a nerve impulse (action potential).

Compare & contrast the adaptive responses of camels and kangaroo rats to desert stress.

Compare how oxygen is carried in the blood with how carbon dioxide is carried in the blood.

Compare events after neurotransmitter is released from excitatory axons with events after similar release from an inhibitory axon.

Describe how the quantity and concentration of urine is controlled.

Describe how the resting membrane potential of a neuron is produced.

Describe the anatomical and functional differences between rods and cones in a vertebrate eye.

Describe the events that precede or follow the release of calcium ions from the sarcoplasmic reticulum.

Describe the qualities of a successful parasite species.

Describe the responses of the human body to significant heat loss or heat gain.

Describe the role of the glomerulus, the proximal tubule, the distal tubule, and Henle's loop in forming urine.

Describe the specialized sensory adaptations of an animal of your choice.

Describe three ways that the presence of carbon dioxide facilitates the delivery of oxygen to active tissues.

Describe what happens when an adequate quantity of excitatory neurotransmitter is released from synaptic vesicles.

Explain how the ear is able to discriminate between high and low pitched sounds.

Explain the operation and importance of negative feedback in homeostatic systems using endocrine control as an example.

Identify and briefly describe the four ways that heat may be transferred from one body to another.

Describe the immediate and ultimate sources of energy for muscle contraction.

Describe the qualities of a successful predator species.

Contrast the strategies of big vs small mammals to desert stress.

21%, 78%, 0.04%  
pH 7.4

2nd messenger

actin and myosin

thin & thick filaments

active transport

ADH

alveoli

ammonia/urea/uric acid.

axon/dendrite/soma

bicarbonate ions

Bowman's capsule

bronchioles/bronchus/trachea

budding

capillaries

carbaminohemoglobin

carbon dioxide/carbonic acid

carbonic anhydrase

carpels, femur, fibula,

humerus, metatarsals,

patella, phalanges,

radius, tarsals, tibia,

ulna

cervical/thoracic/ lumbar/

sacralvertebrae, coccyx

clavicle, scapula, ilium,

ischium, pubis, hyoid

frontal, mandible,

maxillary, nasal,

occipital, parietal,

temporal, zygoma

collecting ducts

connective/epithelial/muscular/nervous (tissues)

cotransport

counter-current

multiplication

cuboidal/simple

columnar/

stratified squamous

diaphragm

diffusion/osmosis

epiglottis/glottis

epinephrine

evaporation

excitatory/inhibitory

excretion

exocytosis/endocytosis

extracellular fluid

facilitated diffusion

filtrate/filtration/reabsorption/ secretion

glomerulus

hemoglobin

hermaphrodite

hydrostatic skeleton

hypothalamus

hypothermia

inspiration/expiration

insulin/glucagon

internal/external

fertilization

interneuron/sensory/

motor neurons

interstitial fluid/lymph

loop of Henle

metabolic water

mm Hg (Torr)

mucus

myofibril/myofilaments

Na<sup>+</sup>/K<sup>+</sup> pumps

nephron

node of Ranvier

oxyhemoglobin

parthenogenesis

peptide (non-steroid)

hormones

proximal/distal tubule

renal

cortex/medulla/pelvis

sarcolemma

sarcomere

sarcoplasmic reticulum

Schwann cell myelination

shivering

skeletal homologues

steroid hormones

sweating

terminal knob/bouton

thermoreceptors

thyroxin

tropomyosin and

troponin.

ureter/urethra

urination

vasoconstriction/vasodilatation

Z lines