

# A&P Entrance Exam Study Guide

Branches of biology

General:

- Body cavities and the organs within

- Abdominal quadrants and organ location

- Anatomical planes, directional terms,

- Cell structure- mitochondria, nucleus, cell membrane

- Types of cellular transport (active, diffusion, exocytosis, endocytosis, phagocytosis, facilitated diffusion)

- Parts of the eye

- Ions (Sodium, Chloride, Potassium, Calcium)- functions, found primarily

- Visceral vs parietal serous membranes

- Water location in the body

- Anatomical terms for different parts of the body

- Glycolysis, gluconeogenesis, glycogenesis, glycogen

- DNA vs RNA

- Determining Mass Number

- Proteins, carbohydrates, and amino acids

Functions: pancreas, liver, kidney (Loop of Henle, PCT, DCT), spleen

Endocrine

- Glands- hypothalamus, adrenal, pituitary, ovaries (what do they create, store, secrete)

- Function of insulin

Cardiovascular:

- Heart tones and what they represent

- ECG tracing and what each wave represents

- Structure and function of RBC and hemoglobin

- Pacemakers and the conduction system of the heart

Stroke Volume

Cardiac output

Chordae tendineae

Types of blood cells and their functions

Blood groups, universal donor vs universal recipient

Heart valves

Systolic vs diastolic

Formed vs non-formed elements in the blood

Mitral valve prolapse

Respiratory

terms- tidal volume, reserve volume,

location of gas exchange

lobes in the lungs

Acid base balance

Lymphatic/Immune system:

Function

Thoracic duct

Types of immunity

Immunoglobulin types and primary functions

Production of antibodies

Digestive system:

Acids

Production and function of bile

Parts of the intestines

Where absorption occurs

Parts of the stomach

Sphincters associated with the stomach

Musculoskeletal:

Axial vs appendicular skeleton

Tendon vs ligament

Structures of the external and inner ear

Bones-ribs, skull, hyoid, manubrium, mandible

Stem cells that create blood

Different parts of a bone

Neurotransmitter at the neuromuscular junction

Cells that create and destroy bone

Types of muscle (skeletal (voluntary), smooth (involuntary), cardiac

Parts of the tooth

Nervous system:

Peripheral vs Central -components, functions

Lobes of Cerebrum – primary functions

Cranial nerves- functions

Neuron

Collection of axons

Threshold

Meninges

Production of CSF

Integumentary system:

Glands found in the skin

Types of burns

Small muscles in the skin

Reproductive

Zygote

Ovaries

Urinary:

Enzymes in the RAAS

PCT

DCT

Loop of Henle