

G1103 Test Questions

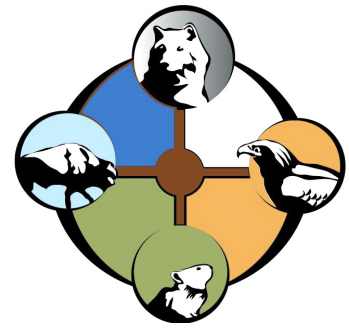
# Practical Anatomy/ Physiology

## Test Questions: 1

Please answer these questions on a separate sheet of paper and submit all questions and answers to Nemenhah when complete. Thank you!

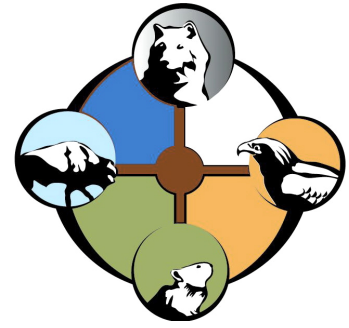
- 1) Define anatomy and physiology.
- 2) Why would you have a hard time trying to learn physiology if you did not also understand anatomy?
- 3) Name in order the six levels of organization, beginning with atoms and ending with organism (the body).
- 4) List the eleven organ systems of the body, briefly describe the function of each, and then name two organs in each system.
- 5) In addition to being able to metabolize, grow, digest food, and excrete wastes, what functions must an organism perform if it is to survive?

# Practical Anatomy/ Physiology



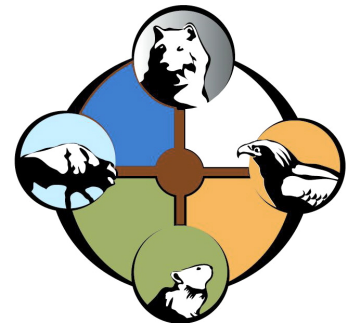
- 6) List five external factors that must be present to sustain life.
- 7) Define homeostasis.
- 8) What is the consequence of loss of homeostasis, or homeostatic imbalance?
- 9) Describe the anatomical position.
- 10) On what body surface is each of the following located: nose, calf of leg, ears, umbilicus, fingernails?
- 11) Explain the effects of the following solutions on living cells: hypertonic, hypotonic, and isotonic.
- 12) Briefly describe the process of DNA replication.
- 13) Define mitosis. Why is mitosis important?
- 14) What is the role of the spindle in mitosis?

# Practical Anatomy/ Physiology



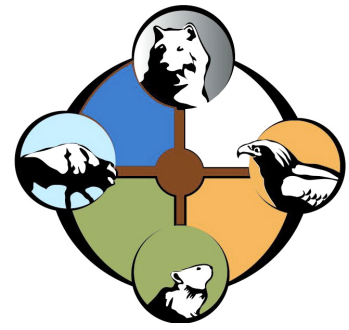
- 15) Why can an organ be permanently damaged if its cells are amitotic?
  
- 16) Describe the relative roles of DNA and RNA in protein synthesis.
  
- 17) Describe the general characteristics of epithelial tissue. List the most important functions of epithelial tissues and give examples of each.
  
- 18) How is the concept of homeostasis (or its loss) related to disease and aging? Provide examples to support your reasoning.
  
- 19) How are epithelial tissues classified?
  
- 20) Where is ciliated epithelium found, and what role does it play?
  
- 21) How do the endocrine and exocrine differ in structure and function?
  
- 22) What are the general structural characteristics of connective tissues? What are the functions of connective tissues? How are their functions reflected in their structures?
  
- 23) Name a connective tissue with (a) a soft fluid matrix, and (b) a stony matrix.

# Practical Anatomy/ Physiology



- 24) What is the function of muscle tissue?
- 25) Name the three types of muscle tissue and tell where each would be found in the body.
- 26) What is meant by “smooth muscles are involuntary in action”? Which muscle type is voluntary in action?
- 27) What two functional characteristics are highly developed in neurons?
- 28) In what ways are neurons similar to other cells? In what ways are they different?
- 29) Define neoplasm, atrophy, and hyperplasia.
- 30) How are benign neoplasms different from cancerous neoplasms?
- 31) A “red-hot” bacterial infection of the intestinal tract irritates the intestinal cells and interferes with normal digestion, resulting in diarrhea loss of body fluid. Why does diarrhea occur?

# Practical Anatomy/ Physiology



## At the Clinic

32) Two examples of chemotherapeutic drugs and their cellular actions are given below. Explain why each drug could be fatal to a cell: Vincristine: damages the mitotic spindle, Adriamycin: binds to DNA and blocks messenger RNA synthesis.

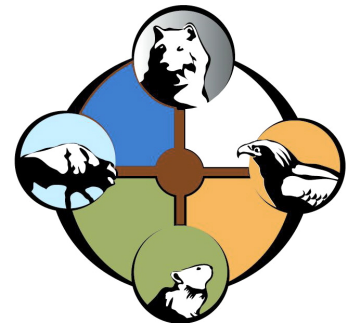
33) Hydrocortisone is an anti-inflammatory drug that stabilizes lysosomal membranes. Explain how this effect reduces cell damage and inflammation.

34) John has severely injured his knee during football practice. He is told that he has a torn knee cartilage and to expect that recovery and repair will take a long time. Why?

35) Three patients ICU. One has brain damage from a stroke, another had a heart attack, and the third has a severely crushed liver. All three survive. Which has functional recovery through regeneration?

36) Kareem had a nervous habit of chewing on the inner lining of his lip and the lip grew thicker and thicker. A biopsy revealed hyperplasia and scattered areas of dysplasia, but no evidence of Neoplasia. Does this indicate cancer of the mouth?

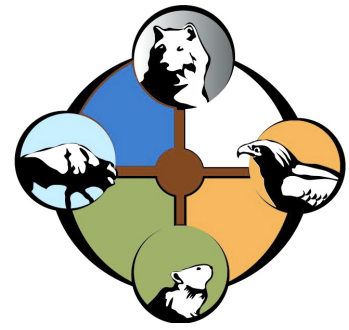
# Practical Anatomy/ Physiology



## Test Questions: 2

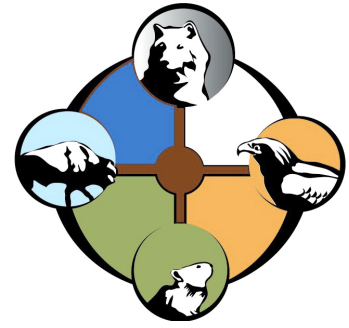
- 1) What is a B-Cell?
- 2) What is a T-Cell?
- 3) What is a Macrophage?
- 4) What is a Neutrophil?
- 5) What is a Basophil?
- 6) What is an Eopsinophil?
- 7) Name some of the things that suppress normal immune function?
- 8) What are some of the things that we do as a society to suppress the immune system?

# Practical Anatomy/ Physiology



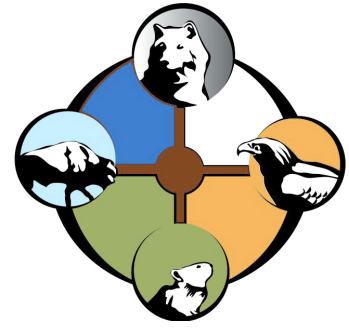
- 9) Describe the cellular handshake.
  
- 10) What role does the immune system have in regenerative processes in healing?
  
- 11) Describe the difference between “boosting” the immune system and “modulating” the immune system.
  
- 12) Name the four elements making up the bulk of living matter.
  
- 13) Define cell and organelle.
  
- 14) Although cells have differences that reflect their specific functions in the body, what functional abilities do all cells exhibit?
  
- 15) Describe the general function of the nucleus. Describe the special function of DNA found in the nucleus. What nuclear structures contain DNA? Help to form ribosomes?
  
- 16) Describe the general structure and function of the plasma membrane.
  
- 17) Describe the general composition and function of the Cytosol and the inclusions of the cytoplasm.

# Practical Anatomy/ Physiology



- 18) Name the cellular organelles and explain the functions of each.
- 19) What is the difference between active and inactive transport processes?
- 20) Define diffusion, osmosis, simple diffusion, filtration, solute pumping, exocytosis, endocytosis, phagocytosis, and pinocytosis.
- 21) What two structural characteristics of cell membranes determine if substances can pass through them passively? What determines whether or not a substance can be actively transported through the membrane?
- 22) What kind of section would have to be made to cut the brain into anterior and posterior parts?
- 23) Which of the following organ systems—digestive, respiratory, reproductive, circulatory, urinary, or muscular – are found in both subdivisions of the ventral body cavity? Which are found in the thoracic cavity only? In the abdominopelvic cavity only?
- 24) Make a drawing of the nine abdominopelvic regions and label each region. Scan and upload it here or mail it to the testing center.\*

# Practical Anatomy/ Physiology



## At the Clinic

- 25) A nurse informed John that she was about to take blood from his antecubital region. What part of his body was she referring to?
- 26) Later, she came back and said she was to give him an antibiotic shot in the deltoid region. Did he take off his shirt or drop his pants to get the shot?
- 27) Before John left the office, the nurse noticed that his left sural region was badly bruised. What part of his body was bruised?
- 28) When we begin to become dehydrated, we usually become thirsty, which causes us to drink fluids. On the basis of what you know about control systems, decide whether the thirst sensation is part of a negative or positive feedback control system.
- 29) How is the concept of homeostasis (or its loss) related to disease and aging? Provide examples to support your reasoning.
- 20) Jennie Dip fell off her motorcycle and tore a nerve in her axillary region. She also tore ligaments in her cervical and scapula regions and broke the sole bone of her right brachial region. Explain where each injury is located.