Nervous/Immune System Benchmark Intervention Assignment

Immune System

1. What is the body’s first line of defense against infection by pathogens?
   a. inflammatory response          b. interferon          c. B Cells          d. skin

2. The __________ is the disease-causing agent and the __________ is the name-tag that identifies it
   a. antigen; pathogen       b. pathogen; antigen       c. pathogen; antibody

3. Viruses are considered __________ because they are __________
   a. living; made of cells       b. living; not made of cells
   c. non-living; not made of cells       d. non-living; made of cells

4. Allergies are an overreaction of __________, which is like a chemical signal.
   a. Histamine; help       b. HIV; stop
   c. pathogens; interference       d. phagocytes; antigen

5. __________ causes __________
   a. HIV; AIDS       b. AIDS; HIV
   c. Fever; AIDS       d. AIDS; purple

6. The purpose of getting a vaccination is to
   a. stimulate the production of antigens that prevent infections from occurring
   b. replicate genes that produce hormones that regulate the number of germs
   c. stimulate the immune system to react and prepare to fight future invasions by the virus
   d. increase the production of living microbes that will protect against future attacks

7. _____ Plasma Cells a. activated by a chemical signal from Helper T Cells
8. _____ Helper T Cells b. play a role in specific and nonspecific defenses
9. _____ B Cells c. make and secrete antibodies
10. _____ Macrophages d. sound the alarm to activate specific immune cells
11. _____ Antibodies e. Y-shaped proteins that put a head-lock on pathog

12. Homeslice got chickenpox (a viral infection) twice as a kid. Did his immune system fail? Explain…

13. Name and describe the function of 3 nonspecific defenses. How do they work?

14. HIV attacks Helper T Cells. Explain why this is such a bad thing. (Bonus: what can happen to people with high viral loads? Explain…

15. Why don’t antibiotics work on viruses? What treatment would work on viruses? Why?
Nervous System

1. The basic unit of function of the nervous system is the
   a. brain  b. senses  c. neuron  d. spinal cord

2. What are the main divisions of the nervous system?
   a. the sympathetic NS and parasympathetic NS   b. the peripheral NS and central NS
   c. the sensory system and the motor system   d. the dendritic and the axonal systems

3. Which of the following scenarios would activate the sympathetic NS?
   a. stressful situation  b. reflex situation  c. peaceful situation  d. voluntary situation

4. Which of the following is/are characteristic of the sympathetic NS?
   a. stop digestion  b. heart beats faster  c. rapid breathing  d. all of the above

5. The neurons involved in a reflex arc are activated in the following order:
   a. motor, sensory, interneuron  b. sensory, interneuron, motor
   c. interneuron, motor, sensory  d. sensory, interneuron, brain, motor

6. A nerve impulse is brought into the cell body by the __________ and then leaves out the __________ to continue the transmission of the impulse to the next neuron.
   a. motor ; sensory   b. myelin sheath ; dendrites   c. axon ; dendrites   d. dendrites ; axon

7. In humans, transmission of a nerve impulse across a synapse is carried out by ________
   a. sodium ions  b. potassium ions  c. the nodes of Ranvier  d. neurotransmitters

8. Explain how the nervous system interacts with any of the other organ systems. Give 1+ specific examples!

9. Why do we need reflexes? Give 1 example, including all the relevant details (hint: from stimulus to response!)

10. Label the parts of neuron 1. Draw arrows to show how an impulse moves through neuron 1 to neuron 2. Finally, label which part of the impulse is electrical and which part is chemical.