**Module 2: Functional Anatomy**

**The brain and spinal cord are protected by three mechanisms. Which of the following is NOT one of them?**

Meninges

Chemical neurotoxins

Cerebrospinal fluid

The blood brain barrier

**Which area of the brain acts like a switchboard operator by receiving information from all the sensory systems except smell, and relaying it to other parts of the brain?**

Hypothalamus

Thalamus

reticular formation

Century Link

**What helps cushion and protect the brain?**

blood

fat cells

cerebrospinal fluid

a mucus-like substance

**Cardiovascular activity and respiration are controlled by the \_\_\_\_\_\_**

Medulla

Pons

Thalamus

Reticular formation

**Which of the following best describes how the brain works?**

All of none (equivalent to Yoda’s “do or do not, there is no try” philosophy)

Specificity not specialization

Specialization not specificity

Rigid, fixed, and unforgiving

**Which of the following is not true of glial cells?**

They are far outnumbered by neurons

They help guide neurons to their ultimate destination in the developing fetus

They increase the speed of conduction within neurons

They provide nutrients to neurons

**Damage would be most life-threatening to humans if it affected the \_\_\_**

Forebrain

Parietal lobe

Medulla

Occipital lobe

**Which area of the brain understands the language of the nervous system and the endocrine system?**

The pituitary

The hypothalamus

The thalamus

The frontal lobe

**Which division of the nervous system allows us to interact with the external environment?**

Somatic nervous system

Autonomic nervous system

Central nervous system

Parasympathetic nervous system

**Which of the following statements about the spinal cord is TRUE?**

It’s long, big, and fat

Sensory information enters through the dorsal root ; motor information exists through the ventral root

Motor information enters through the dorsal root ; sensory information exists through the ventral root

Sensory information enters through the ventral root ; motor information exists through the dorsal root

**What is the cerebellum specialized to do?**

Keep us alive

Perform higher cognitive function

Mediate operant and classical conditioning

Mediate the experience of emotion

**The diencephalon is comprised of \_\_\_\_**

This and that

Hypothalamus and Thalamus

Hypothalamus and Pineal gland

Cells and Fluid

**My husband's brain tumor produced a symptom where he truly felt as though his foot was being pulled through the floor - and that his foot was one with the floor. This symptom is characteristic of damage to \_\_\_\_\_\_\_**

Glial cells

The frontal lobe

The parietal lobe

The sensory nerves in the foot

**Approximately \_\_\_\_\_% of your daily caloric intake is consumed by your brain's activity**

10

15

25

It depends on how much thinking you do - the more you think, the more energy is consumed

**Which is the most abundant type of neuron in your nervous system?**

interneurons

sensory neurons

motor neurons

conspiracy neurons

**What determines how much cortical tissue is allocated to a given body area in the motor and somatosensory cortex?**

How much control & sensitivity we have in those body parts

Frequency of use

It’s unpredictable:  it depends on the specific individual

It all depends on the artist who draws the picture

**Why is gray matter referred to as gray and not white?**

Because Confucius said so

Because the tissue is composed primarily of myelinated cell bodies

Because the tissue is composed primarily of myelinated axons

Because the tissue is composed primarily of unmyelinated cell bodies

**Parkinson's Disease is characterized by \_\_\_**

too much epinephrine simulating motor neurons which leads to tremors in the hands and face

too little dopamine is released in the striatum and thus motor movements are not inhibited

deterioration and atrophy of the motor cortex

neurofibrillary tangles and amyloid plagues develop in the substantia nigra

**Navy seals are trained to suppress fear responses so that they can make lightning-fast and accurate decisions. Presumably, they are learning to suppress activity in which brain structure?**

myelencephalon

basal ganglia

septum

amygdala

**Scientists who study human brain functions are faced with which challenge?**

inadequate and too few neuroscience training programs

no means of visualizing brain activity in real time

blow back from people and institutions who maintain that autopsies on human brains are unethical

too few "normal" brains to autopsy and study