**Neuroscience Review - Remember these things could be bullet points on the free response questions**

**Biological Bases of Behavior**

• Identify basic processes and systems in the biological bases of behavior, including parts of the neuron

and the process of transmission of a signal between neurons.

• Discuss the influence of drugs on neurotransmitters (e. g., reuptake mechanisms, agonists, antagonists).

• Discuss the effect of the endocrine system on behavior.

• Describe the nervous system and its subdivisions and functions: — central and peripheral nervous

systems

\*Major brain regions, lobes, and cortical areas; — brain lateralization and hemispheric specialization.

• Discuss the role of neuroplasticity in traumatic brain injury.

• Recount historic and contemporary research strategies and technologies that support research (e. g.,

case studies, split-brain research, imaging techniques).

• Discuss psychology’s abiding interest in how heredity, environment, and evolution work together to

shape behavior.

• Predict how traits and behavior can be selected for their adaptive value.

**Free Response Trends - 2012-2017**

**The following are repeated items from the free response questions**

**Biological Basis for Behavior**

- Motor Neurons (Afferent Neurons), myelin sheath, neural firing

- Autonomic NS: Sympathetic NS = pupils dilate, perspiration, heart accelerates, digestion reduced

- Parasympathetic NS = a decrease in heart rate; which correctly pairs subdivisions within the major divisions of the human nervous system

- Prefrontal Cortex, Motor cortex, Sensory cortex

- Limbic System

- Cerebellum, reticular formation

- Broca’s area

- Dopamine, serotonin, ACH

- Occipital lobe

- Endocrine system, pituitary gland, pancreas, ovaries, testes

The human organism displays various reactions that are characterized by opposing tendencies. Use a specific physiological or psychological mechanism to explain how both aspects of opposing processes apply to EACH of the following.

* Appetite
* Autonomic nervous system
* Color vision
* Drug use
* Nerve firing

James is in a driver’s education course preparing to take his driving test. The course includes both book work and driving on the road to prepare students for a written test and a road test.

(a) Describe how each of the following might influence his ability to drive a car during the road test. Definitions without application do not score.

• Cognitive map

• Cerebellum

• Observational learning

• Human factors

Savannah is a junior in high school and is preparing for an exam in her beginning Japanese course. The exam will consist of both written and spoken portions. Although it is her first course in Japanese, Savannah is confident that she will do very well on the exam.

A. Describe how each of the following relates to Savannah’s successful learning and performance.

Broca’s area

Use of phonemes

Modeling

Chunking