**Unit 2: Biological Bases for Behavior**

**100 questions – multiple choice (82 from Unit 2, 18 from Unit 1)**

**A-Day Classes:** Tuesday, October 8; **B-Day Classes:** Monday, October 7

* You will not be allowed to use your notes or vocabulary on the test (but you should review these because I think you will find them helpful!)
* Unit 2 covers Chapters 3A, 3B, and 3C.
* There are 73 vocabulary terms for Unit 2. Vocabulary can be found at the end of each chapter under the heading “Terms and Concepts to Remember”. Vocabulary terms and their definitions must be handwritten in your composition notebook. Composition books will be collected before the test.

**Nervous System**

* Peripheral (PNS) (*all nervous tissue outside of the brain & spinal cord)*
* Central (CNS) *(brain and spinal cord)*
* Autonomic *(controls self-regulated action of internal organs and glands)*
* Somatic (skeletal) (*controls voluntary movement)*
* Sympathetic (*arousing)*
* Parasympathetic *(calming)*

**Neural Transmission – know the diagram**

*How does a message get from my foot to my brain? You should be able to explain this process. Remember the toilet!*

* Dendrites – cell body (or soma) – axon – axon terminal – neurotransmitters – synapse
* Neurotransmitters: dopamine, endorphins, acetylcholine, serotonin, glutamate, GABA, norepinephrine (*what they do and the effects of too much/too little)*
* Agonist vs. Antagonist
* Blood-brain barrier
* L-Dopa
* “all-or-none” response
* Refractory period
* Reuptake
* Action potential
* Synapse
* Myelin sheath
* Effects of drugs (like cocaine and heroin)
* How learning effects neural connections

**Brain Imaging**

*How do each of the technologies give us a picture of the brain and/or its activity?*

* CT
* MRI
* PET
* EEG
* fMRI

**Brain Structures – know the diagrams**

*You should know the order in which brain regions evolved. You should know the major structures AND their functions. What would happen if one of these structures was lesioned or damaged (like Phineas Gage)? How would behavior change?*

* 4 lobes (frontal, parietal, occipital, temporal)
* Wernicke’s
* Broca’s
* Amygdala
* Cerebral cortex
* Hypothalamus
* Thalamus
* Cerebellum
* Hippocampus
* Medulla
* Reticular formation (reticular activation system)
* Corpus callosum
* Association areas
* Brainstem
* Motor cortex
* Sensory cortex

**Hemispheric Specialization**

*Why would a split brain operation be performed? What is severed in this surgery? What have split brain experiments taught us about what the right and left hemispheres are largely responsible for?*

* Plasticity

**Genetics**

*How have adoption and twin studies contributed to our understanding of the nature vs. nurture debate?*

* Dominant vs. Recessive genes (Punnet Squares)
* Prenatal environments
* Effects of learning
* What are some traits that are inherited vs. those that are due to upbringing (nature vs. nurture)

**Evolutionary Psychology**

*Keep in mind that the evolutionary perspective argues that our behavior is the result of traits we have inherited from our ancestors because they are traits that contributed to their survival.*

* Natural selection
* Genetic predispositions
* Living to an age at which one can reproduce

**Endocrine System**

*Compare the speed and duration of the endocrine system (hormones) with the nervous system (neurotransmitters).*

* Hormones
* Pituitary gland
* Adrenal gland (epinephrine, norepinephrine)
* Thyroid gland

**Unit 1 Review**

* Hypothesis (what is it?)
* Replication
* Operational definition
* Research methods – definition of an experiment, case study, naturalistic observation, survey (which type of study is best given a certain set of circumstances), random sampling, random assignment
* Correlation – correlation coefficients, positive / negative correlations, vs. causation, scatterplots
* Major perspectives – biological, behavioral, humanistic, cognitive, psychodynamic, social-cultural, evolutionary