

## Chapter 1:

1. What are neurons/nerve cells? What are neuroglial cells?
2. Be able to name and describe the major features of a neuron. What does a cell body contain? What is an axon? Dendrites (and dendritic arborization)?
3. Neurons display a wide range of cell types, why is this?
4. What are neurotransmitters, what function do they serve?
5. What is an action potential and how does it work? What is the role of ion pumps and channels?
6. What helps determine a neuron's function?
7. Describe the process of synaptic communication. What is the synaptic cleft? Pre/postsynaptic terminals? NT receptors? Vesicles?
8. What is a neural circuit? Afferent neurons? Efferent neurons? Interneurons?
9. What is an example of a neural circuit? (describe)
10. What are electrophysiological recordings and the two basic methods? What is the difference between synaptic and receptor potentials?
11. What are the two neural systems and their purposes?
12. What is the central nervous system? Peripheral nervous system?
13. In the central nervous system, what are the two ways nerve cells are organized?
14. How are axons in the CNS organized? What types of cells insulate these axons (in both the CNS and PNS)? What is this insulation called and how does it work?
15. What is gray matter? White matter?
16. What are the four main types of ganglia in the PNS?
17. Describe the organization of autonomic ganglia in the autonomic motor division of the PNS. (parasympathetic and sympathetic)
18. What are the seven basic parts of the CNS?
19. What are the functions of the brainstem? What are the main nerve types the brainstem houses?
20. What are the functions of the spinal cord? Describe the organization of the spinal cord. Also describe how information travels through the spinal cord.
21. What are gyri and sulci? Fissures?
22. What is the cerebral cortex?
23. What are the four cerebral hemispheres? Describe the important parts and cognitive functions of each hemisphere.
24. Briefly describe and identify the parts of the olfactory system.
25. Where is the cerebellum, thalamus, hypothalamus, hippocampus, sylvian fissure, and pons located?
26. What are the two largest structures embedded within the cerebral hemispheres? What makes up the basal ganglia?
27. What is the amygdala?
28. What is the ventricular system? The four ventricles? CSF? Choroid Plexus?