Lecture - Chapter 12: Nerve tissue and the synapse

1. What are the general functions of the nervous system?
2. Describe the anatomy of the two major divisions of the nervous system (CNS and PNS).
3. Describe the organization of the nervous system, include the following structure and their function:
   a. Receptors (somatic sensory vs visceral sensory)
   b. Afferent (sensory)
   c. Central Nervous System (CNS)
   d. Peripheral Nervous System (PNS)
   e. Efferent (motor)
   f. Effector target (somatic motor vs visceral motor)
4. What is the function of the following neuronal structures:
   a. Dendrites
   b. Cell body (soma)
   c. Axon hillock
   d. Axon
   e. Terminal branches
   f. Axon terminal
   g. Synapse
5. Define Presynaptic cell (neuron), and a Postsynaptic cell (neuron).
6. Describe the following components of the synapse:
   a. Synaptic vesicle
   b. Neurotransmitter
   c. Synaptic cleft
7. Describe the following: excitatory synapse, inhibitory synapse.
8. What is an action potential? Where is it initiated?
9. What are the two classifications of neurons?
10. What are the functions of the following neurons:
    a. Sensory neuron
    b. Motor neuron
    c. Interneuron
11. Describe the following neurons: unipolar (pseudounipolar) neuron, bipolar neuron, multipolar neuron.
12. What is the function of the following neurons, and where in the nervous system are they found: sensory neurons, motor neurons, interneurons.
13. How are afferent pathways related to sensory neurons, how are efferent pathways related to motor neurons?
14. What are the 4 neuroglia found in the CNS, what are their functions?
15. What are the 2 neuroglia found in the PNS, what are their functions?
16. What is the function myelin?
17. How are oligodendrocytes and schwann cells similar, how are they different?
18. Describe the anatomy of a typical peripheral nerve. Include the following:
   a. axon
   b. myelin
   c. nerve fascicles
   d. endoneurium, perineurium, and epineurium.
19. Describe the differences, similarities between a monosynaptic reflex, vs poly synaptic reflex
20. What is the function of a reflex?
21. What are the components of a reflex arc?
22. What neuronal structures are found in the grey matter and white matter of the CNS?
23. What happens to a CNS or PNS neuron if the axon or cell body is damaged?

Label the following:
Dendrites                       Terminal branches
Cell body                       Axon terminal
Axon hillock                   Synapse
Axon