

9.01 Study Questions – Lecture 8

1. Contrast the meanings of the two terms in the following pairs (from previous lectures):
 - Anterograde vs. retrograde degeneration.
 - Anterograde vs. retrograde transport.
 - Orthograde vs. anti-dromic conduction.
2. Define: motor neuron, primary sensory neuron, secondary sensory neuron, and interneuron.
3. Amphioxus is the most primitive living member of our phylum, the _____. The CNS is located [ventrally, dorsally] as a tubular structure found just above (superficial to) the _____.
4. The expansion of the neural tube in evolution gives rise to three major brain vesicles (enlargements), known as _____, _____, and _____.
5. A major reason for these enlargements was the evolution of what function? _____.
6. What is the “driver of evolution”?
7. Motivation systems of the brain evolved for adaptive control of approach and avoidance actions. Name three types of such actions. Why was it necessary to evolve mechanisms of goal hierarchies?
8. The catfish has a 7th cranial nerve with a distribution that differs markedly from that of the 7th cranial nerve in mammals. What is different? To what major part of the CNS does this nerve connect?