(5pts) Explain a resting membrane potential and how it is maintained. What is the significance of the resting membrane potential.

A resting potential is the mV charge at which a cell exists. This charge is maintained by the cellular membrane and specifically ion channels (Na, Cl, K) and the Sodium/Potassium ATPase Pump. This resting membrane potential gives the cell the ability to work by creating energy via the inflow and outflow of ions.

(5pts) Explain an Action potential.

This is a response by a cell whereas the cell is provided a stimulus which opens up Sodium channels. This is a graded response that when enough Sodium channels open and depolarization of the cell occurs, a threshold is reached which triggers a large number of Sodium channels. A set value of +30 mV is reached and then an absolute refractory period followed by a hyperpolarization occurs. Then the cell returns to its resting membrane potential.

(5pts-ext) What are the major divisions of the nervous systems?

- CNS
- Peripheral
  - Autonomic
  - Somatic