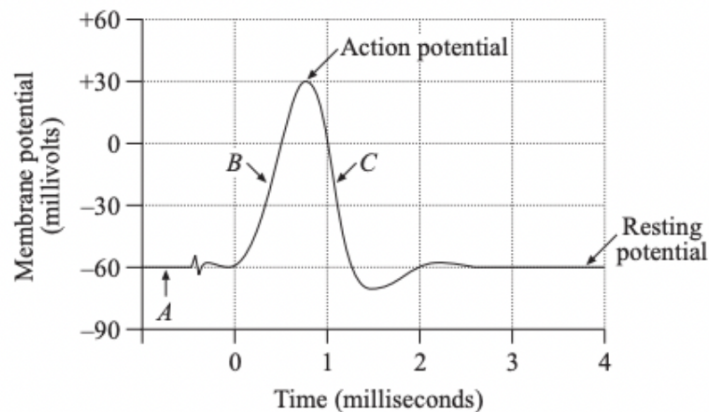


The following diagram shows the resting and action potentials recorded from an axon displayed on a cathode ray oscilloscope.



- What process maintains the resting membrane potential at -60mV at A?
- What ions move across the membrane at B? In what direction do they move?
- What ions move across the membrane at C? In what direction do they move?
- If the action potential were recorded from another point further along the same axon, would it be the same as or different to the one in the diagram above? Explain your answer.

- Homeostasis is the process whereby the internal body environment of an organism is remained stationary through the action of a series of bodily processes involving effector organs and chemical release. Through this process, the resting membrane potential remains at -60mV show by the point A and hence allows for the body's nervous system to be alert of any stimuli. At the case that homeostasis is blocked, importantly the stationary membrane potential is not achieved, as well as other states of the body such as internal temperature, glucose regulation, water potential and the concentration of chemicals.

- b) Potassium ions move across the network of neurons within the peripheral nervous system to create a positive electric force along the cell body of a nerve cell.
- c) Sodium ions move across the network of neurons within the peripheral nervous system to create a negative electric force in the opposite direction of the cell body to consequently receive the effector organs response to the stimulus.
- d) Membrane potential is the difference in the flow of electrons, this electron flow through the charges of the potassium and sodium ions allows for the magnitude of charge to remain the same despite varying locations of the axon. Therefore, although the location of the measure of charge is different, the trend of the graph of an action-potential is relatively similar, there may be some differences in the magnitude and exact unit of the potential, but both graphs would be exerted as the same.