

**SRN: PES1PG22CS051**

Neuroscience is the study of the brain and nervous system, and it is an incredibly complex and fascinating field. Over the past few decades, advances in technology and techniques have allowed neuroscientists to make significant strides in understanding how the brain works, and how it is connected to our behavior and experience. One of the primary tools that neuroscientists use to study the brain is functional magnetic resonance imaging (fMRI). fMRI allows researchers to observe changes in blood flow to different regions of the brain, which can provide insight into which areas of the brain are active during different tasks or experiences.

Another important tool in neuroscience is electroencephalography (EEG). EEG measures the electrical activity of the brain using electrodes placed on the scalp. This technique can be used to study the brain's response to different stimuli or to measure brain activity during sleep. Studying the brain can be a challenging task, as it is a highly complex and interconnected organ. The human brain is made up of around 86 billion neurons, which are specialized cells that transmit information throughout the nervous system. These neurons form complex networks, allowing the brain to process and interpret sensory information, control movement, and regulate bodily functions. One area of neuroscience that has received a lot of attention in recent years is the study of neural plasticity.

Neural plasticity refers to the brain's ability to adapt and change in response to experiences and environmental factors. This process occurs throughout our lives, and it is a key component of learning and memory. One of the most fascinating examples of neural plasticity is the phenomenon of phantom limb syndrome. This occurs when a person loses a limb, but still experiences sensations or pain in the missing limb. Research has shown that this is due to changes in the brain's sensory maps, which can reorganize in response to the loss of a limb.



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**5/04/2023**