

Control & Coordination



Terms and Definitions from the Chapter "Control and Coordination"

1. **Neuron:** The basic unit of the nervous system responsible for transmitting information through electrical and chemical signals.
2. **Dendrite:** The branched extensions of a neuron that receive signals from other neurons.
3. **Axon:** The long thread-like part of a neuron that transmits impulses away from the cell body.
4. **Synapse:** The junction between two neurons where the transfer of information occurs via neurotransmitters.
5. **Reflex Arc:** The neural pathway that mediates a reflex action, involving sensory input and motor output without involving the brain for immediate response.
6. **Central Nervous System (CNS):** Comprises the brain and spinal cord, responsible for processing and sending out signals.
7. **Peripheral Nervous System (PNS):** The network of nerves outside the CNS that connects the rest of the body to the CNS.
8. **Cerebrum:** The largest part of the brain, responsible for voluntary activities, sensory perception, and higher mental functions such as thinking and memory.
9. **Cerebellum:** The part of the brain responsible for coordinating voluntary movements and maintaining posture and balance.
10. **Medulla Oblongata:** The lower part of the brainstem that controls vital involuntary functions such as heart rate, breathing, and blood pressure.
11. **Hormone:** Chemical substances produced by endocrine glands that regulate various body functions.
12. **Endocrine Glands:** Glands that secrete hormones directly into the bloodstream, including the pituitary, thyroid, and adrenal glands.
13. **Adrenaline:** A hormone produced by the adrenal glands that prepares the body for 'fight or flight' responses.
14. **Auxin:** A plant hormone that promotes cell elongation and is involved in regulating plant growth.
15. **Gibberellin:** A plant hormone that promotes stem elongation and seed germination.
16. **Cytokinin:** A plant hormone that promotes cell division in plant roots and shoots.
17. **Abscisic Acid:** A plant hormone that inhibits growth and promotes seed dormancy and stress responses.
18. **Tropic Movements:** Directional growth movements in plants in response to environmental stimuli, such as light (phototropism) or gravity (geotropism).
19. **Nastic Movements:** Non-directional movements in plants in response to stimuli, such as touch (thigmonasty) or changes in temperature.
20. **Feedback Mechanism:** A regulatory system in which the output or response affects the activity of the system, often maintaining homeostasis.

These terms and definitions cover the essential concepts in the chapter on control and coordination in living organisms, detailing both nervous and hormonal systems in animals and plants .